DOCUMENT RESUME

ED 309 297 CE 052 943

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TITLE Upgrading Basic Skills for the Workplace.
INSTITUTION Pennsylvania State Univ., University Park. Inst. for the Study of Adult Literacy.
SPONS AGENCY Appalachian Regional Commission, Harrisburg, PA.; Gannett Foundation, Rochester, NY.; Pennsylvania State Dept. of Commerce, Harrisburg.
PUB DATE 89
NOTE 178p.
AVAILABLE FROM Institute for the Study of Adult Literacy, Pennsylvania State University, 248 Calder Way, Suite 307, University Park, PA 16801.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Adult Basic Education; Adult Literacy; *Basic Skills; *Functional Literacy; *Literacy Education; *Marketing; Program Design; *Program Development
IDENTIFIERS Appalachia; *Workplace Literacy

ABSTRACT

Intended for trainers of literacy providers and practitioners in the field, this manual explains how to develop a workplace literacy program and market it to employers. Chapter 1 provides an overview and history of workplace literacy and recommends improvements in literacy services. Chapter 2 examines approaches to developing workplace programs, shows how literacy providers can work most effectively with business and other community agencies to develop programs, and lists steps in evaluating the programs. Chapter 3 provides an overview of occupation-focused instruction and illustrates ways instructors can adapt basic skills instruction to a workplace or vocational training context. Chapter 4 gives sample learning activities in the areas of occupational vocabulary, using occupational forms, reading comprehension, oral communication, occupational math, reading charts, problem solving, and metacognition. Chapter 5 provides 84 references. Chapter 6 contains exhibits relating to basic skills, job task analysis, awareness and readiness, assessment, instruction, and program evaluation. Also included is a case study of a workplace literacy program and lists of state adult basic education offices, state economic development offices, state libraries, and state vocational information materials resource centers in the Appalachian region. Chapter 7 contains a 29-item annotated bibliography and Chapter 8 provides examples of documents used as program development job aids. (CML)

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Upgrading Basic Skills for the Workplace

Developed by
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for the
Pennsylvania State Coalition for Adult Literacy

Funded by the
Appalachian Regional Commission
Pennsylvania Department of Commerce
Gannett Foundation

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Acknowledgements

We thank the members of the Advisory Committeè:

Judith Aaronson- Pittsburgh Literacy Initiative
Sally Atkins- Tri-State Literacy Council, Huntington, West Virginia
Beverly Campbell- Spartanburg AWARE, Inc., Spartanburg, South Carolina
Marilyn Centner- Alabama Public Library Service, Montgomery, Alabama
Edna Compton- Dungannon Development Commission, Dungannon, VA
Teddy Cook- Tennessee State Dept. of Education, Nashville, Tennessee
Joe Cooney- National Alliance of Business, San Francisco, California
John Frank- Western Maryland Public Libraries, LaVale, Maryland
Diane Gower- Tennessee State Dept. of Education, Nashville, Tennessee
Martha Hollar- Caldwell Community College & Technical Institute, Nashville, Tennessee
Scott Howard- Ironton City Schools, Ironton, Ohio
Eloise Johnson- Mississippi Department of Education, Jackson, Missisippi
Elaine Lynch - Member of the Pittsburgh Literacy Initiative
Jacqueline Phillips- Appalachian Regional Commission, Washington, DC
Nelson Ronsvalle- Bureau of Economic Development, Albany, New York
Jack Russell- Appalachian Regional Commission, Washington, DC
Nancy Smith- Dalton College, Dalton, Georgia
Sandra Welch- KET, The Kentucky Network, Lexington, Kentucky
Betty Wong- Mississippi Department of Education, Jackson, Missisippi
Nancy Woods-Adult Literacy Action of Penn State Beaver Campus, Monaca, Pennsylvania

We also thank:

Robin Asbury- Monongalia County Technical Education Center, Morgantown, West Virginia
Denver Barnett- Randolph County Vo-Tech, Elkins, West Virginia
Theresa Bickhart- Dunkirk Area Central Labor Council, Dunkirk, New York
Centre County Task Force- State College, Pennsylvania
Renee Chabon- Nabisco, Pittsburgh, Pennsylvania
Diane Cheatham- UAW-Ford, Batavia, Ohio
Mary Lou Echevaria- Dunkirk Literacy Program, Dunkirk, New York
Brian Elrod- UAW-Ford, National Education, Development and Training Center, Dearborn, Michigan
Jerry Emmons- Division of Adult Basic Education, Frankfort, Kentucky
Vincent Quatroche- Dunkirk Literacy Program, Dunkirk, New York

Brenda Rollins- Kentucky Department of Education, Frankfort, Kentucky
Dan Shatzer- UAW-Ford, Batavia, Ohio
Cindy Sloat- UAW-Ford, National Education, Development and Training Center, Dearborn, Michigan
Randall White- Adult Basic Education for Northeast Alabama Area, Ft. Payne, Alabama
Duran Williams- Cocke County Schools, Newport, Tennessee

In addition, we thank the many other representatives of business and labor organizations and literacy services who opened their doors to us and shared their knowledge, resources, and perspectives.

Introduction

This introduction should guide potential users by defining the express purposes for which Upgrading Basic Skills for the Workplace was designed. The manual introduces workplace literacy to the trainers of literacy providers, as well as practitioners in the field. It was designed to provide workplace literacy programs with a coherent framework to help them make intelligent, informed decisions about local workplace literacy needs and services.

It must be realized that workplace literacy has unique characteristics. Included in the relationship between provider and learner is the new client, business, industry and labor organizations. This creates a new dynamic in that provider comes to agreement with the learner's employer rather than merely with the learner. Goals and options are determined by the needs of this new client rather than by the learner. This does not deny the needs of the learner, but addresses the workplace needs of the worker. Improved job performance, retraining for updated jobs, entry into the workforce, certification and job advancement are primary motivators. Workplace literacy customizes the literacy tasks to the particular job.

A thirty minute video, A Literate Workforce: Meeting the Needs, showcases eight Appalachian region literacy programs for the workplace. The video supplements the manual. It provides examples of programs as a source of encouragement and motivation to literacy providers. A short version of the video targets community leaders and business.

For the benefit of the reader, the following terms are defined:

- workplace literacy: written and spoken language, math, and thinking skills that workers and trainees use to perform specific job tasks or need to be trained.

- workforce literacy: educational attainment and skill development of the nation's workforce.

- basic skills: fundamental skills for communication which include reading, writing, mathematics, speaking, listening, and communication.

- occupation-focused: basic skills instruction which uses the language, tasks, and knowledge of the workplace. The two forms of occupation-focused instruction are job-related assistance (short term geared to specific need) and technical preparation (long-term).

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Chapter 1

DEFINING WORKPLACE LITERACY AS A SERVICE CATEGORY

DEFINING WORKPLACE LITERACY AS A SERVICE CATEGORY

This chapter is an overview of workplace literacy. It discusses the history of workplace literacy, traces its development to today, and lists recommendations for improving literacy services.

- **Section 1: History of workforce literacy**
presents an interesting perspective on the longterm development of basic skills in the workplace and in vocational training. It illustrates the swings in workplace literacy from merely preparing workers to be better "cogs in the wheel" to developing thinking and problem solving skills.

- **Section 2: Workplace literacy today**
looks at the dramatic changes in the U.S. economy with their subsequent effects on the workplace and the skills needed to function in today's workforce. It describes general trends in government's, business', and education's response to this new critical need.

- **Section 3: Recommendations for responsive services**
synthesizes the findings of two reports which recommend expanding and restructuring services for workplace literacy.

A Definition of Workplace Literacy

Workplace literacy is an important social and economic issue. It may be defined as the written and spoken language, math, and thinking skills that workers and trainees use to perform job tasks or training. It came into its own when the 1988 amendments of the federal Adult Education Act treated workplace literacy as a discrete category of service. The description of workplace literacy and list of its services included in the Act reflects current practices and promotes new directions.

The 1988 amendment defines workplace literacy services as programs to improve workforce productivity by improving workers' literacy skills. Allocated funds promote partnerships between business, industry, labor, and education:

- Adult secondary education services leading to a high school diploma or its equivalent.
- Literacy programs for limited English proficient (LEP) adults.
- Upgrading/updating adult workers basic skills to keep pace with changes in workplace requirements, technology, products, or processes.
- Improving adult workers' competencies in speaking, listening, reasoning, and problem solving.
- Educational counseling, transportation, and non working hours child care services to adult workers while they participate in a program.

Section 1: History of workplace literacy

Workplace literacy is not a new issue. Its history dates back 200 years. A look at this history allows us to see continuity in the development of services to meet business needs and involvement of governments and unions in workplace programs.

Improved work performance has been an explicit goal of workforce literacy programs since worker education programs in the eighteenth century. Debate over what kinds of instruction foster motivation and productivity has raged for 200 years.

When the Sunday school movement in the 1790s extended reading instruction to the English working class, one literacy provider attempted to assure employers that her program was not designed to disturb the social system. "My plan of instruction is extremely simple and limited. . . . I allow no writing for the poor. My object is not to make them fanatics but to train up the lower classes in habits of industry and piety." [1]

The nineteenth century was a period of strong development of workers education. In the 1820s, the Franklin Institute in Philadelphia and self-help worker groups advanced workers education to include a mentally vigorous approach. Mechanics learned science concepts to acquire "an understanding of the principles which underlay their work—an understanding which would elevate manual occupations, so that workers would find fuller satisfaction in their labors and the work itself would be improved." [2] Today, the mentally stimulating or conceptual approach to literacy instruction is taking hold. Employers are beginning to seek workers who can engage in creative problem solving and who can understand and manage complex technical equipment. In the 1870s, secondary school vocational education programs began. Corporate schools were established to teach English and American culture and to provide technical and specialized courses to immigrants.

More recently in the 1960s and 70s, there has been an upswing in workplace literacy activities. Evaluation of employment-directed basic skills programs stressed establishing realistic goals, working in cooperation with business to meet business needs, and lessening reliance on pre-packaged programs. [3] Companies offered ABE/GED services on-site, and unions offered them to members as a union benefit. Job Corps and CETA (Comprehensive Education and Training Act) were established to provide training and basic skills instruction for persons seeking employment. Business and unions established a cooperative pattern in operating Job Corps programs, from early on. Since 1967, the Appalachian Council (a nonprofit organization governed by AFL-CIO presidents in the 13 state Appalachian region) contracted with Job Corps to provide outreach, vocational training, and job placement services for disadvantaged youth ages 16 to 22. The federal government funded basic skills education through the ABE/GED program beginning in 1964. Also during this time two national literacy organizations, Laubach Literacy Action and Literacy Volunteers of America, were organized to provide literacy programs on a community basis. [4]

In the early 1980s, complex changes in the global economy effected the United States. Our economy shifted from a manufacturing to service-oriented industry. [5] This resulted not only in a loss of jobs but also in a dynamic change in the nature of job skills. Business, facing growing international competition, retooled for increased productivity. New technology displaced workers from jobs that required lower-level literacy skills. A gap emerged between job requirements and workers' literacy skills. Workers were required to adapt to a new work environment. As a stop gap measure, business and industry pushed for training and job-aids that minimized reading, writing, or math. Increased training of hourly workers was required for workers to learn new procedures and to operate new technology. Instructors and supervisors responsible for training often found themselves helping employees with math or reading. [6]

Although workforce literacy was becoming an increasingly important issue, few providers had resources to deliver comprehensive workplace programs. Limited funding and lack of cooperative planning seriously restricted efforts. At the same time, federal funding for adult basic education was reduced. Some local literacy programs cooperated with business and industry to increase their share of funding for employee basic skills instruction. Few private industries allocated resources for in-house literacy programs. (In 1985, private firms spent an estimated 1% of their training and education budget on basic skills.) [7] Diverse kinds of agencies offered ABE/GED programs as well as volunteer-based programs (under the auspices of Laubach and Literacy Volunteers of America). However, lack of communitywide coordination or effective pooling of resources was a major weakness of program efforts. [8]
Partnerships between unions and business in planning programs increased. JTPA (Job Training Partnership Act) which replaced CETA, was structured to equalize authority between public and private sectors. JTPA mandated that both business and union representatives serve on local Private Industry Councils (PIC's). [9] In 1982, a collective bargaining agreement between the United Auto Workers and the Ford Motor Company established a model for union-management cooperation to provide funding for training and education of displaced and employed hourly workers.

Section 2: Workplace literacy today

In the past, agriculture, mining, and labor-intensive manufacturing supplied the bulk of jobs. Today, "at risk" workers are losing their place in the labor force because of increasing requirements. [10]Few jobs remain that don't require training and even fewer are predicted for the future. New jobs require new, more diverse skills, training, and greater investments of training time. Literacy assessments and training requirements, designed to screen out lower level workers, are becoming more popular with business and industry.

The textile industry is a good example of how work has been redesigned so that workers need to be retrained. Operator jobs are becoming more demanding because operators responsible for reducing "down-time" of expensive equipment must understand the production process. [11]

In many service industries, front line workers determine and match customer needs to available services. This requires systematic and abstract knowledge about the company's services, communication skills, diagnosis of needs using questions and answers, and the ability to use information presented in charts and graphs efficiently.[12]

More jobs will require higher levels of education. In the late 1960s, more than 40% of all jobs were held by high school dropouts. Today, less than 15% of all jobs are held by dropouts.[13] By 1990, the majority of new jobs will require post secondary education or training. Today's middle-level skilled jobs will be the least-skilled jobs in the future.[14]

Workforce literacy is an investment in developing human resources. Labor market need for a literate workforce cannot be met without upgrading skills of long-term employees and new hires. American workers are becoming middle-aged. By the year 2000, the average age will increase from 36 to 39 years and 51% of the population will be in the 35 to 54 year age group. Because the labor pool is growing more slowly than at any time since the 1930s, most of the workers (more than 75%) for the year 2000 are employed now.

Nationally, approximately 27 million adults qualify only for jobs that required below a 4th grade reading level; although 18 million adults can read material up to 8th grade level, they have trouble with "types of information presented in mid-skill level jobs;" an additional 27 million adults who read above 8th grade level need training to "read and understand technical manuals." [15]

The number of young adults who work directly after high school will decrease by the year 2000. According to the Bureau of Labor Statistics, workers under age 25 will decrease from 20% to 16% of the labor force. In addition, the U.S. military is expected to draw at least 30% of eligible male high school graduates and a growing number of females. [16]

Many entry level, young adults do not have adequate basic skills for the workplace. A recent national survey of young adults ages 21 to 25 showed that although most (95%) could read and write to perform simple one-step tasks, they were less able to complete tasks of multiple items. Educationally disadvantaged youth have the least developed skills. [17] Employers will find this important because 29% of entrants into the workforce will be young adults from minority groups that traditionally have been disadvantaged. By the year 2000, 16% of the workforce will be adults from minority groups.[18]

An estimated 450,000 immigrants enter the U.S. each year. If this rate continues unchanged, half of the net population gain through the year 2000 will come from immigration. The implication for the workforce is far reaching. Immigrants often have low English reading skills. The Bureau of the Census conducted a reading comprehension survey in 1982, estimating that of the 17 to 21 million adults who were designated as illiterate, 37% speak a non-English language at home.[19] According to a report released by the National Council of La Raza, 22% of all adult illiterates in the United States are Latino. Thirty-nine percent to 49% of all adult Latinos in the United States are not literate in English. [20] An additional problem is that nonnative English speakers vary in amount of schooling and ability to read and write in their native language.

New interest in workplace literacy is coming at a time when only a small amount of need is being met. Although ABE/GED and volunteer literacy programs are in place in a large number of communities, participation in literacy programs is low. For example, in the South in 1986, slightly more than one percent of the undereducated population received a GED or high school diploma. [21]

Few workplace programs are in place. The 1988 Human Resources Survey, conducted by the Pennsylvania Chamber of Commerce, showed this fact. Of 397 businesses that responded to the survey, 38% indicated they offered educational programs to employees within the last ten years. Of the companies who offered educational programs, 68% offered postsecondary level; 7% offered GED Training (grades 9-12); 5% offered Adult Basic Education (grades 5-8); 4% offered Basic Literacy (grades 0-4); and 3% offered English as a Second Language.

There is a new trend in higher state appropriations for adult literacy. In states such as

Pennsylvania, Virginia, Tennessee, and Mississippi, substantial statewide public or private appropriations for adult literacy programs have been introduced in the last few years. West Virginia, South Carolina, and North Carolina provided 100% matching of federal dollars. [22] In Pennsylvania, the State Department of Education has made workforce education a major focus of program funds and has funded projects to develop basic skills curricula for prevocational or vocational occupations as well as funding programs to provide basic skills services to business and industry.

Literacy screenings are becoming an important factor in obtaining training, employment, and promotions. Beginning in July, 1988, JTPA service delivery areas are required to screen new participants for reading skills. Anyone who scores below a 7th grade level or refuses assessment is required to enroll in a literacy program. Although the literacy program may run concurrently, no effort is made to coordinate basic skills with vocational or on-the-job training. In each state, employers may contract with the Office of Employment Security to administer the GATB (General Aptitude Test Battery) to entry level job applicants for entry level jobs and promotions. Passing the test requires a 6th grade reading level. In a 12 month period in 1987-88, the test was administered to 44,000 applicants in Pennsylvania. In the central part of the state, half of the applicants for employment with a major manufacturer had scores that indicated below 6th grade reading and math levels.

Vocational education programs also use literacy screening as a prerequisite to training. At times, 8th or 9th grade level scores have been used as the cut off for entry into technical training. Literacy screenings can be used to refer individuals to appropriate training programs. However, unions are concerned about the job threatening aspects of literacy assessments and new training requirements. Screening applicants away from training or out of jobs on the basis of literacy levels is a short-lived solution for upgrading skills of the workforce.

Coalitions and cooperative efforts are underway to promote and provide literacy services. In the past few years, statewide coalitions have been funded by the Gannett Foundation. Public television stations through Project PLUS (Project Literacy U.S.), local governments, and newspapers, have also been catalysts for the establishment of coalitions. In local communities, geographical regions, and at statewide levels, existing coalitions have been strengthened and new ones established in the past several years. Coalitions offer many advantages for strengthening literacy services:

- They bring together representatives of business and industry, labor, school and volunteer literacy programs, libraries, media, public relations, employment and human service agencies, and community service organizations.
- They promote cooperation between school and volunteer literacy providers.
- They help to build employers' awareness of literacy needs and services.
- They function as referral sources not achievable through single agency contacts.

- They enable a community to provide services for large and small employers by pooling community resources.

- They enable innovative and inclusive proposal development, involving employer, private, and government funding.

Section 3: Recommendations for workplace literacy services

Two recent reports, one state,[23] and the other, southern regional, [24] describe the need to expand and restructure services responsive to workplace literacy created by continued demand for high levels of basic skills by business and industry. These reports include recommendations at the governmental and service provider levels. They include the following suggestions.

Service Providers should

- involve business and industry for effective program development
- customize programs to meet needs of specific industries
- offer English as a Second Language vocational programs
- provide services for employees of small businesses
- provide basic skill services needed to establish business and industry liaison positions
- integrate basic skills and technical skills training in adult vocational education
- integrate basic skills training into job training independent of GED-track instruction

Government should

- provide technical assistance to service providers to design customized workplace programs
- provide technical assistance to business and industry to assess literacy requirements of jobs

- include technology in instruction including computers, television, and video
- provide government funds for research and innovative projects
- provide government funds for training of service providers
- provide government funds for community-based programs operations
- provide government funds for volunteer-based program operations
- increase the number of full-time literacy professionals
- provide equalized reimbursement rates for adult basic education programs and other courses
- provide incentives to business and industry to contract with local service providers for assessment and instruction
- establish accountability measures
- establish federally legislated mechanisms to facilitate workplace literacy partnerships at the state or local levels

Chapter 2

MARKETING WORKPLACE LITERACY SERVICES

MARKETING WORKPLACE LITERACY SERVICES

Workplace literacy requires a knowledge of the world of work and an understanding of how basic skills instruction relates to the unique characteristics of the workplace. Material presented in this chapter will be helpful for literacy providers to use in developing their role in workplace literacy.

- **Section 1: Developing workplace literacy programs**
examines different approaches to developing workplace programs and discusses how literacy providers can think through their role in developing workplace literacy programs.

- **Section 2: How to market literacy services to a business client**
discusses how literacy providers can work most effectively with business and other community agencies to plan and develop workplace literacy programs.

- **Section 3: Steps in developing a workplace program**
illustrates step-by-step the process of putting a workplace literacy program into place.

- **Section 4: Program evaluation**
lists steps in program evaluation and planning.

- **Section 5: Appalachian Regional Commission Recommendations**

Section 1: Developing workplace literacy programs

Literacy providers must design new program options for workplace literacy education. When planning workplace literacy programs, program planners should be aware that two types of workplace programs can be adapted from standard literacy instruction.

1. Customized delivery of standard literacy programs. Literacy providers can suggest that businesses or vocational schools refer employees or students to standard literacy programs that are offered at a time and place most convenient to employers and employees. One way to adapt a standard literacy program to satisfy workplace needs is by offering customized delivery. This means that a standard literacy program is delivered where, when and how it is most beneficial to the business or vocational school being served. Programs can be held off-site for employees who want confidentiality or they can be held on-site to ease participation. Instruction can be offered during working hours or can be "off-clock". Customized delivery may also include specific course entry and exit requirements and or specialized types of instructional media. Regardless of the type of program delivery, the instructional content and methods vary little from a standard literacy program.

Customized delivery programs offer a choice of learning environments:

- place (usually on-site or in a location identified with employment)
- time (usually built around shift changes)
- entry into and duration of program (fixed term or open-ended)
- participation (voluntary, mandatory, referred)
- instructional media (computer, video, print, etc.)
- cost (employer fee, employee on-clock or off-clock, etc.)

2. Customized literacy instruction for specific businesses, industries and or vocational schools. Literacy providers can customize standard literacy instruction for specific groups by using occupation-focused (or often called "func-

tional") content. This means that instructional content is adapted to a specific work environment's needs. Occupational or vocational terms, vocabulary and concepts are substituted for standard content. Learner motivation is increased because instruction is made meaningful and relevant.

The difference between customized delivery and customized instruction is important. Just because a literacy program is offered at a work site does not mean that the instruction is any different than a standard program. Customized instruction is called "occupation-focused" instruction [which is discussed fully in the next two chapters] because it centers on workplace needs.

Occupation-focused instruction is an addition to and not a substitute for standard literacy instruction. It expands the market for literacy services and meets immediate training needs of occupational or vocational clients. Both customized delivery and customized instruction are possible approaches in workplace literacy program design. Workplace literacy programs can contain a mix of standard and occupation-focused content. Companies can offer both standard literacy programs and occupation-focused training.

For example, in addition to providing basic tutoring in reading, ESL, writing and math, Aetna Life & Casualty has developed a series of short courses (about 20 hours each) for employees seeking to improve their basic business skills. The same courses are offered during the day (in concentrated time blocks) or at night over a longer period of time. Students in these daytime "on-the-clock" courses are referred by their supervisors. Individuals or entire work units can be referred for training. Voluntary evening courses are held once or twice a week on the employee's own time.

Regardless of the type of workplace literacy program, program structures should be flexible to permit integrating occupation-focused content into standard literacy programs.

For example, Martha Hollar, ABE/GED Coordinator of Caldwell Community College in North Carolina, shares tutors from community to on-site programs. Martha agreed with companies that the training director would be present during instruction one hour a week. This promotes informal occupation-focused instruction that is efficient and effective because of the immediate access to technical expertise.

Section 2: How to market literacy services to a business or vocational client

What factors need to be considered in preparing to meet with businesses and vocational schools?[1]

1. What are the workplace literacy needs?
2. What client groups need literacy services?
3. What are the literacy needs of the clients?
4. What are the business/community networks?
5. How should you approach a business?
6. What about a hostile company?

1. What are the workplace literacy needs? Explore business community to identify potential workplace literacy needs.

- examine existing businesses and industries
- consider plans for future growth
- assess skill levels of existing workforce
- assess skill requirements of existing and future jobs
- determine the gap between existing job skill requirements and current workforce skill levels

2. What client groups need literacy services? Determine which businesses and industries need upgrading in workplace literacy. Find out which businesses and industries are interested in developing workplace literacy programs. The client is business or industry, but this does not exclude the needs of unions, trainers and employees.

- do employees belong to a union?
- what kind of relationship exists between management and labor?
- are there labor stipulations that must be considered?
- does the business have a trainer or training program?
- what do employees feel they need to learn, should learn, or would like to learn?

3. What are the literacy needs of the clients? In workplace programs, literacy providers help employers and employees define needs. It is important for providers to remember

that the client—not the provider—determines need. This point is crucial. Businesses have internal constraints (e.g. protection of proprietary information, liability, contracts) that help shape their circumstances. Service providers can present options for them to consider.

4. What are the business/community networks available to locate companies? Randall White, coordinator of more than twenty literacy programs in the northern Alabama area, suggests that literacy providers look for companies likely to sponsor literacy programs. Companies that are open-minded, progressive, and support adult education are potential clients. To locate these companies, literacy providers should use networks and community associations. Literacy providers should make a list of possible companies and then try to get one of the companies to host a function on site, to sponsor a community breakfast, or to donate money for the printing of a literacy brochure.

Another way for literacy providers to elicit support is by contacting clubs and organizations and offering to speak at future meetings. The objective is to acquaint the group with workforce literacy and its potential for reaching the educationally disadvantaged. The ultimate goal, however, would be to cultivate potential support people, such as spouses of business executives or other family members of the executives or key personnel in the business. This can be a good way of informally gaining access to people inside the business.

Another way to elicit support is to get business executives and/or their spouses to serve on the boards of the literacy organizations. Get business to be an active partner in literacy at the grassroots level.

REMEMBER: To tap all sources/networks, think about reaching:

COMMUNITY NETWORKS
- church groups
- clubs
- service organizations
- economic development groups (local and state level)
- welfare/social agencies
- literacy coalitions
- political parties
- Chamber of Commerce
- federal and state government resources and expertise

ADULT EDUCATION/LITERACY NETWORKS
- school districts
- literacy programs/councils
- job training centers/programs
- library

BUSINESS/INDUSTRY/LABOR NETWORKS
- labor unions
- business clubs
- business/manufacturing associations

5. How should you approach a business? Approaching a business is a new experience for many literacy providers. When breaking new territory, it is always a good idea to step back and reevaluate the existing situation. This is a good time to ask some questions about the agency, the business, and the new students.

Here are some questions to consider before approaching business:

- What time can the literacy program commit to the business?
- What are realistic goals that the literacy program can offer and/or accept?
- Are the resources available to run this new program?
- What is the structure of the company?
- What is the mission of the business?

REMEMBER: Establish a personal contact within the company before you approach the company about developing a literacy program.

- Does the business have a trainer/training program?
- Does this company have a union? Union leadership should be included at the early phase of any program development.
- What type of relationship does labor and management have?
- What, if any, labor contract stipulations must be considered?

REMEMBER: Do your homework before you approach any business. Be prepared to answer questions. Know the business - management and labor. Point out how your program can benefit the business.

- Who will be entitled to see the results of any student testing?

These are all things that need to be considered—before the start of the program—not after the program has started. Consensus needs to be established ahead of time to avoid any disruptions after the program has started.

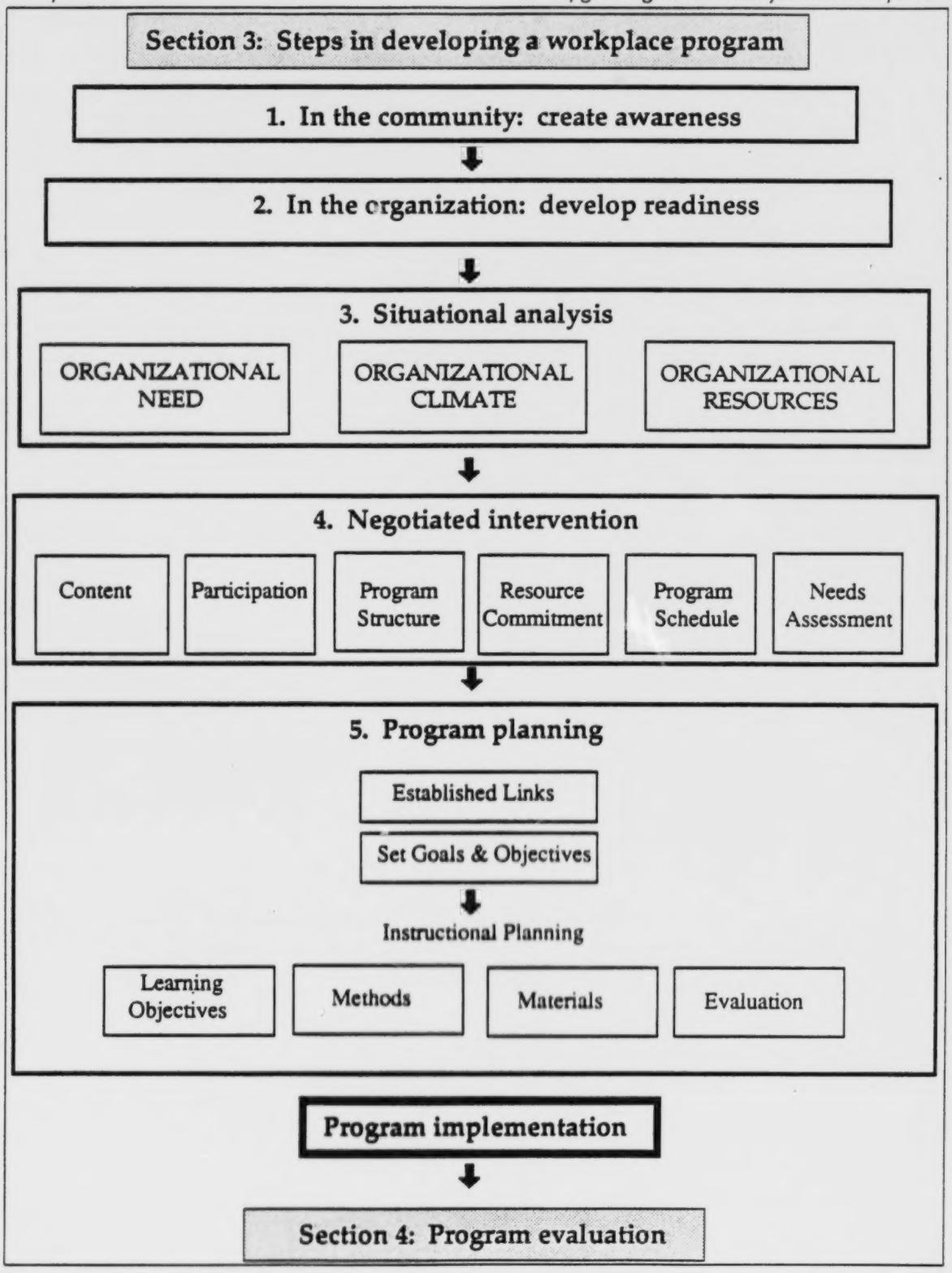
<u>When you talk to business, you should :</u>

- Always present the needs of the community in a positive light rather than highlighting the negatives (e.g.: "Prepare for the future" versus "Your workforce is poorly prepared").
- Point out the benefits to the business and not altruistic gains for the society at large.
- Present models and examples of successful programs.

REMEMBER: Briefly state your case and then **listen** to your potential client.

6. What about a hostile company? The question has been raised, "What about a hostile company? How do you approach it?" We suggest you don't. If your reputation and successful track record cannot "sell" the program, then maybe the company is just not ready for such an undertaking.

The literacy provider should, however, establish a file of potential businesses that need literacy services. Then periodically, send these businesses updates on activities, newspaper clippings of successes, and/or a personalized note. The impression made will make the company more receptive to overtures in the future.


Section 3: Steps in developing a workplace program
1. In the community: create awareness
2. In the organization: develop readiness
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ORGANIZATIONAL NEED
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5. Program planning
Established Links
Set Goals & Objectives
Instructional Planning
Learning Objectives
Methods
Materials
Evaluation
Program implementation
Section 4: Program evaluation

Section 3: Steps in developing a workplace program

STEP 1:

In the community: create awareness. Developing community awareness is often the first step in providing workplace literacy services.

GOAL: To create awareness and understanding in the community to gain community support for workplace literacy programs.

- **Engage community representatives in a community partnership.**
  - -Recruit workplace literacy coalition or task force membership.
  - -Solicit workplace literacy program sponsorship.
  - -Present workplace literacy issues to the community through business/industry/union events. (Meetings, breakfasts, conferences.)
  - -Solicit expertise of business community.

- **Once you have captured the attention of business, there are questions that need to be answered in order to determine the needs of the business community.**
  - -What are the concerns and problems of the business community?
  - -Have there been changes in local business/industry/unions? (new industry, plant closings, lay offs, etc.)
  - -Have there been major changes in transportation routes, population characteristics, etc.?
  - -What are the projected changes in the community that may produce new educational needs? (Are there plans for new industry, plant closings, etc.)
  - -What are the existing educational services, in particular literacy services, in the community?
  - -Do existing educational services meet the needs of the local workforce?
  - -Are there population segments with special needs not met with existing educational services? (ESL programs)

-Are members of the community using the educational services available?
-Is the local workforce using educational services for literacy instruction or career development?
-What are the other organizations in the community concerned or involved with workplace literacy?
-Are there regional, state or national coalitions for support and resources?

- **Use a variety of information sources to help you determine the needs of business and industry in your community.**
  -Perform community survey of public opinion
  -Perform community leader survey
  -Study census information
  -Review library materials

STEP 2:

In the organization: develop readiness. Sometimes relationships are established with individual business organizations through direct contact, regardless of community involvement. Once an organization has expressed interest, the literacy provider needs to develop the organization's readiness for services.

GOAL: To understand the organization's perceptions of its workplace literacy needs, to communicate ability to help the organization meet its needs.

- **Communicate to further develop organization's interest and understanding of workplace literacy.**
  -Demonstrate the literacy provider 's capabilities and track record.
  -Investigate what has been done before in terms of educational programming.
  -Determine the organization's definition of workplace literacy.
  -Determine the organization's perception of literacy services.
  -Assist the organization in decisions regarding a course of action to promote literacy services.

- **Be prepared to talk with businesses in terms of the types and costs of appropriate workplace literacy programs.**
  -Anticipate possible questions or problems and suggest options and possible solutions.
  -Provide information about literacy services, including costs, content, instructional methods.
  -Facilitate organization and management of literacy services.
  -Be prepared to aid in the preparation of promotional and recruitment activities and materials.
  -Assist with recordkeeping.
  -Suggest and design special presentations and materials.
  -Provide instructional equipment when possible.

STEP 3:

Situational analysis of business/industry/union. A decision to develop a workplace literacy program requires a situational analysis. Three aspects of the organization should be considered: organizational needs, organizational climate, and organizational resources.

Organizational Needs

GOAL: To analyze perceived needs of organization to determine if the problems have educa tional solutions and if the educational solutions have a literacy component.

The organization provides information in response to the following questions.

- **What are the perceived needs at the organizational level?**
  - -Has the organization experienced changes or are there projected changes?
    - Are there new systems on the same job?
    - Are there new procedures for old systems?
    - Are there new responsibilities for same job and same systems?
    - Are there new responsibilities for new jobs and new systems?
  - -Is the organization concerned about current or potential performance problems?
    - Are there procedures not being fully or correctly utilized?
    - Are there problems in productivity?
    - Is the organization concerned with costliness of errors?
    - Is the organization concerned with costliness of waste?
    - Have there been accidents or legal liabilities?
  - -Does the organization have a sufficient pool of qualified workers?

- **What are the perceived needs at job level?**
  - -Are there required professional standards or certifications?
  - -Are there performance problems associated with specific job(s) or job cluster(s)?
  - -Are there projected changes in specific job(s) or job cluster(s)?

- **What are the perceived needs at the employee/trainee level?**
  - -Are there employees or trainees unable to meet professional standards or certification requirements?
  - -Are job level performance problems due to poor performance on the part of specific individuals?

Organizational Climate

GOAL: To identify organizational supports and potential obstacles to the development of workplace literacy interventions.

- **The organization takes into account the following factors to negotiate a successful program.**
  -What is the:
  structure of the organization?
  chain of command?
  leadership style?
  role of union?
  type of contractual agreements?
  responsiveness/commitment of organizations to employees?
  organization's view of education as essential to its mission ?
  goals of the organization?
  conflicts within the organization (internal)?
  stressors on the organization (internal and external)?

Organizational Resources

GOAL: To obtain the organization's commitment to allocate resources to literacy services.

- **The organization's resources should be assessed in order to enhance workplace literacy program development. An assessment of resources should answer the following questions.**
  -What are the resources available for literacy services, in terms of investments of time, space, funds and expertise?
  -Who makes the decisions regarding allocations of resources?

STEP 4:
Negotiate Workplace Literacy Intervention

GOAL: To establish literacy needs of organization and contract with the organization to provide literacy services to meet those specified needs.

- **The agreement between the organization and the literacy service provider should address the following questions.**
  -What are the current and projected skills and knowledge requirements (reading, writing, speaking, listening, math, and content knowledge)?
  Tour organizational facilities and observe language and math used on the job.
  Interview job experts to understand skill requirements of specific tasks and use of language and math.

Obtain job related reading material and evaluate difficulty level.
Analyze literacy requirements in terms of importance and frequency.
-Which employees have adequate literacy skills to meet those needs?
Obtain information regarding employees' educational backgrounds.
Obtain information regarding employees' skill levels in relation to job skill requirements.
-What is the role of the literacy provider in servicing skills and knowledge needs: to function as a clearinghouse of resources, to act as an educational consultant, to provide instruction or to provide assessment services?
-Determine occupational-focus of instruction
Job-related assistance: determine specific tasks or tests that require improved performance
Technical preparation: determine the knowledge requirements for job training
-What are the deliverables, in terms of number of hours of instruction, and expected outcome of instruction?
-Who is responsible for what? What are the responsibilities of business/industry/union,and literacy service provider?
-When does delivery take place? What is the planning and implementation time line?
-Who gets what information, in terms of results of needs assessments, results of evaluations and results of program completion?
-How much will the intervention cost (organizational resources, purchased services, contributions/gifts/in kind donations, matching funds and cost reimbursement)?

- **Negotiations should include:**
-Content: standard literacy/ABE curriculum, GED, job-related assistance (specific occupational goals), technical preparation (integrated basic skills and technical training), and a mix of standard and occupation-specific literacy.
-Participation details: voluntary or mandatory.
-Program structure: workshop, classroom, learning center or tutoring.
-Resource commitment: on-clock, off-clock; tuition payment; on-site, off-site; staff, materials, equipment.
-Program schedule: open-entry, open-exit; set sessions; flexible hours; set schedule.
-Needs assessment procedures:
Who is responsible for planning assessment strategy?
Who is responsible for collection of data?
Who is responsible for analysis of data?
-Evaluation procedures:
Who is responsible for collection of data?
Who is responsible for analysis of data?
Who is responsible for designing evaluation strategy?

STEP 5:
Program Planning

GOAL: To implement a program that meets the needs of the organization and is perceived by participants to be worthwhile. To establish an agenda for partnership in program planning.

- **Establish partnership in program planning within the organization.**
  -Gain support of top management.
  -Solicit input from management, labor, trainers and supervisors.
  -Form joint planning committee.

- **Include goal setting and objectives in the partnership agenda.**
  -Clarify the purpose, process and limits of goal-setting authority.
  -Set short and long term goals.
  -Set standards for accountability.

- **Include planning instruction in the partnership agenda**
  -Identify learning objectives.
    combination of standard and occupation-specific
  -Identify appropriate instructional methods.
    hands on
    simulations
    drill and practice
    lecture, presentations and demonstrations
    peer tutoring
  -Select instructional materials.
    published
    teacher-made
    student-made
    print
    computer-based
    video
  -Design evaluation strategy.
    formative (throughout program planning and implementation)
    summative (outcome)
    evaluate program reports and dissemination
    recommendations for future services

Section 4: Program evaluation: Steps to incorporate evaluation into a workplace literacy program

Evaluating programs is a continuous, circular process. It is not the end of program planning, but an integral part of it. At the inception of planning workplace literacy programs, providers should think through the purposes and strategies for evaluating programs.

Purposes of evaluation.

- Measure effectiveness of program. How well did the program accomplish what it set out to do?
- Make decisions about how to improve the program. What went right? What went wrong?
- Accountability —to justify effectiveness at reaching program goals. Can the program be justified to fun ders or sponsors?

Why evaluate?

- To better serve the client (business/industry/labor).
- To improve credibility with program sponsors (business/industry/labor).
- To make better use of resources.
- To improve overall program performance.
- To give decision makers the information which they feel is relevant.

Below is an outline of steps to think through while incorporating evaluation into a workplace literacy program:

1. Goals and objectives.

Program planning starts with assessing needs of the groups for which the program is intended. Good program planning builds on a solid needs assessment. Needs assessment helps to define the goals and objectives of a program. To develop a context for evaluation:

- Identify and describe the program's target client groups: employees, trainees
- Identify and describe the program's staff: volunteers, paid staff
- Identify and describe the delivery mechanism of the program: public school, community college, community-based agency, ABE program

2. What are the goals of the program?
If program goals are not clearly stated, program evaluation will take place in a vacuum. Program planners should first clearly state what is the program's goal. A goal is a general statement of program purpose. For example, "The goal of the program is to improve the math skills of welding students."

3. What objectives will be set to reach program goals?
After clearly stating goals, providers need to write objectives that will enable them to meet the program's goals. Objectives are specific and measurable statements and limited in time. For example, an objective for the above goal would be "to increase measurement skills for welding students so that they can perform X, Y, & Z job tasks within 6 months." This clearly outlines the target: welding students; what the measurement of success: perform X, Y, & Z job tasks, and time period: 6 months. An objective is the "action plan" to fulfill program goals. Without clearly stated objectives, it is impossible to measure whether or not a program is successful.

4. What "tools" of measurement will be used?
This should be decided upon in the early stages and incorporated into the program's timeline.

- Pre- and post-tests
- Attitudinal data
- Interviews
- Standardized tests

5. Time-line of goals:
In establishing timelines for meeting goals, it is important to remember that there are immediate, intermediate, and long-term timelines. When discussing program goals, program planners should aim for attainment of goals along a spectrum. This helps establish immediate successes to encourage students and builds the groundwork for longer ranged planning.

- **Short term or immediate program goals.**
  -employees' improved job performance
  -employees' instructional achievement
  -satisfy current and projected skills and knowledge requirements

- **Long term program goals.**
  -increased productivity
  -increased morale/motivation
  -upward mobility of workers
  -reduced absenteeism
  -reduced job turnover
  -increased involvement in training/education/social programs
  -increased enrollments in program
  -minimal drop-outs from program
  -employees' positive evaluation of program

6. **Determine budget for evaluation.**
   - Staff time
   - Development of evaluation instruments
   - Collect and analyze data
   - Report preparation and dissemination

7. **Identify staff to be involved with evaluation.**
   - External evaluator
   - Internal evaluator

8. **Develop timeline to conduct evaluation.**
   - Needs assessment
   - Formative evaluation
   - Summative evaluation

9. **Utilize program evaluation results.**
   - Reformulate strategies, methods, materials, resources if necessary
   - Reformulate goals if necessary

10. **Disseminate evaluation results.**
    - Determine accountability
    - Decision making by key people
    - Measurement of effectiveness

Section 5: Advisory Committee recommendations

The advisory committee of the Appalachian Regional Commission (ARC), comprised of literacy providers from thirteen states of the Appalachian region, was joined by other literacy providers as well as officials of ARC and representatives of state government in order to discuss and create strategies for:

- Encouraging coalitions of public and private sectors in order to upgrade literacy in the workplace.
- Developing responsibility of business and industry for education of the workforce.
- Inducing community members to trust and buy into programs.

Their suggestions are included to complement Sections 1 through 4 of Chapter Two.

Encouragement of coalitions of the public and private sectors in order to upgrade literacy in the workplace.

- Networking - keep everybody informed:
  -Economic development group (include at state and/or local level)
  -Local welfare office
  -School systems
  -Build upon informal networks already existing in community
- Identify other service providers, community organizations (ex: churches, chamber of commerce, service organizations). Determine use for each other.
- Approach and include unions.
- Make exchanges within coalition, particularly between private and service sectors (ex: resources for services).
- Use federal and state government. Tap expertise and resources.

- Support local ownership. Agencies and coalitions have different personalities that need to be acknowledged.
- Share goal that addresses self-interest of component parts of coalition (example goal: Provide workplace specific literacy skills for workers of recently retooled widget company in order to prevent layoffs).
- Create more than one option, but not so many that nothing ever gets implemented.
- Define target groups (ex: urban vs. rural).
- Provide time frames with designated goals.
- Delegate responsibility (ex: Marge will report to us on the library system; "Grandparents for Literacy" will find and schedule a place for us to meet).

Develop responsibility of business and industry for education workforce

When approaching particular business or industry:

- Present needs of community in positive light rather than highlighting negatives (ex: "Prepare for the future" vs. "Your workforce is poorly prepared").
- Point out benefits to business, not altruistic gains (bottom line).
- Present models and examples of successful programs (ROI - Return On Investment in training).

Public relations may be addressed by:

- Finding key person(s) of community. Solicit their support to sponsor and promote literacy programs.
- Having spokesperson of coalition speak to state and/or federal officials.
- Promoting use of frequented locations as means to bring business and community together:
  –neutral territory
  –accessible to all (ex: union halls, libraries, shopping malls, public housing)

Once a relationship is established:

- Develop sensitivity to needs of business ("One hand washes the other").

- Solicit leadership from unions at early phase of program development, while being sensitive to labor's relationship with particular business or industry.
- Make it easy on business for initial involvement.
- Recognize business for good work in realm of literacy. Provide inducement to business interests to get involved.
- Promote use of technology (computers) as means toward literacy and workforce use of technology in industry.
- Provide clearinghouse of information to business re: literacy and other social concerns.

Induce community members to trust and buy into programs

- Prepare and distribute press kit - Provide information to key members of community to encourage others to get involved.
- Provide evidence of prior experience and success to support claims of service offered.
- Assure community of long term commitment.
- Become accepted part of community vs. outsiders coming in to "do good."
- Solicit support of local, "home grown" members of community.
- Address believed/understood needs of community as seen by community.
- Use success stories of local individuals.
- Present programs to community as relevant to today rather than the future.

Chapter 3

OCCUPATION-FOCUSED INSTRUCTION

OCCUPATION-FOCUSED INSTRUCTION

The purpose of this chapter is to provide an overview of occupation-focused instruction and to illustrate ways in which instructors can adapt basic skills instruction to a workplace or vocational training context.

- **Section 1: Why workplace literacy is meaningful to adults**

discusses how teachers can use occupational content to advantage by building on worker's knowledge and experience as adults. It synthesizes research on basic skills instruction and points out the benefits of teaching basic skills in a context that is meaningful and familiar to adult students.

- **Section 2: Basic skills in the workplace**

lists how language and math skills are used at work and in training.

- **Section 3: Designing instruction for the workplace**

introduces basic concepts of workplace literacy and describes two different approaches to developing literacy programs for the workplace. It examines questions, which will help program developers think through important issues that will affect their program design.

- **Section 4: Using computers for teaching basic skills to adults**

discusses the pros and cons of CAI for workplace literacy instruction.

Section 1: Why workplace literacy is meaningful to adults

Occupation-focused instruction is the core of workplace literacy programs. It is basic skills instruction which uses the language, tasks, and knowledge of the workplace. Its purpose is to help workers efficiently and effectively develop language and math needed for work or training.

Students get involved in learning when their interests and needs are met efficiently and effectively. Occupation-focused instruction involves adult workers in learning because:

- Knowledge requirements are focused on a specific job area.
- Instruction relates directly to ways language and math are used at work or in training.
- Instruction is linked to the students' identity as competent and productive adults.

The purpose of this chapter is to provide an overview of occupation-focused instruction and to illustrate ways in which instructors can adapt basic skills instruction to a workplace or vocational training context. Whether narrowly focused on improving performance of specific job tasks and tests or broadly focused on combining basic skills and technical training, instruction designed for the employee as learner is far-reaching and dynamic.

One of the maxims of teaching adults is to make education relevant. Knowles explains that adults define themselves according to their experience. "Adults <u>are</u> what they have <u>done</u>." To make learning valuable to adults, it must be anchored in their world of reality. If a student's experience isn't considered, students may feel that their worth as competent adults is denied. [1]

Occupation-focused instruction is an ideal method of adult education because it builds on students' work experience. It motivates students to learn because it relates learning to their specific job needs and interests.

"Work smarter, not harder" is a motto that illustrates the need for educated workers who are capable of adapting to change in the workplace. Valuable workers are those who have the ability to acquire and apply new information quickly. Learning to learn is an important skill in today's workforce. Equipped with the "learning to learn" tool, workers can be competent in other work areas—from reading and writing reports, to calculating, to working in groups, to problem solving. [2]

Knowledge of job content is a bonus for workers in developing basic skills. In occupation-focused instruction, experienced workers learn new material efficiently, using their considerable job knowledge to develop literacy skills. Understanding and comprehending in reading requires background knowledge of the subject matter. The reader must know the topic either through reading about it or practical experience. For experienced workers, reading job-related materials helps them to achieve gains in general reading as well as large amounts of improvement in job-related reading.

Prior knowledge of content permits students to read much more difficult material than predicted by the reader's standardized reading test score. In one program, workers with a 6th grade reading level could comprehend job-related 11th grade material if they had high background knowledge. [3] People concentrate better when reading or thinking about information on a familiar topic than on an unfamiliar topic. [4] This means that occupation-focused instruction is efficient because it incorporates a worker's or trainee's prior experience.

It may be frustrating for teachers to develop basic skills instruction when they are unfamiliar with the occupational content. This can be turned into an advantage because the teacher can ask the student to take the role as content expert. Through discussion, the teacher can get the student to explain the occupational content which will be used in the lessons.

There is a big difference between developing occupation-focused instruction for experienced workers who have job knowledge and for entry-level trainees who may lack job knowledge. Since all adults have a wealth of accumulated knowledge, it is important for teachers to build on whatever background knowledge trainees may have. Once a teacher establishes a base with these students, they can build bridges that hook new job knowledge to prior knowledge.

Teachers can maximize instruction by tapping the job content knowledge of experienced workers. Exercises to increase students' awareness of language can be done most effectively with familiar content. Teachers can draw on a worker's occupational knowledge by using familiar occupational vocabulary to teach word attack skills and by using passages containing familiar occupational content to introduce comprehension skills. Once practiced, comprehension skills such as identifying main ideas and details, paraphrasing, classifying, and sequencing, can be called upon and used consciously to develop knowledge about the job or occupation.

Section 2: Basic skills in the workplace

Literacy skills in the workplace are developed in relation to specific content, set in specific kinds of language forms (memos, bills of lading, customer orders, etc.). Workers use a mixture of reading, writing, speaking, listening, computation and physical actions to perform tasks on the job.

Language is used at work in:

- Group situations to solve work problems with each person contributing some part of the needed information[5]
- Connection with physical tools and equipment (telephones, videodiscs, computers, calculators and occupation-specific equipment)[6]
- Problem solving that takes into account practical considerations and the physical environment[7]
- Communication with customers

Workers use language for various reasons. They use language to:

- Ask questions, check understanding, anchor key ideas in memory, and use information to plan and solve problems
- Build a conceptual understanding of the work environment; to know reasons for job tasks; and to contribute to informal and formal problem-solving, planning, and research.[8]

In preparing occupation-focused instruction, teachers help students to determine how they use language at work. This can be done by observing language use on the job or in a training program, collecting samples of materials, and asking students to describe their use of reading, writing, speaking, and listening on the job.

Reading is used for work:

- Daily
- In training to learn information for future use
- Especially by new workers. (Most heavy job-related reading is performed by new workers who lack the background knowledge of experienced workers.)[9]
- Repetitively to do job tasks[10]
- Frequently to check technical references[11]
- Often to understand "dense" lists of information items written in a telegraphic style[12]
- Often to understand pictures and diagrams
- To cross-check information related to a job task[13]
- To find relevant information[14]
- To communicate with the next shift[15]
- In trouble-shooting (by technicians who use diagrams to locate source of a problem)[16]
- To interpret symbols, abbreviations, and numbers in non-text formats (Even workerswho are beginning readers have learned to read some job-specific symbols.)[17]
- To get information from production schedules, inventory sheets, payroll ledgers, tables[18]
- To fill "down" time by reading newspapers and novels[19]

Reading skills used in:

- Understanding text containing complex grammar and "jargon"[20]
- Understanding informally written notes and memos that contain key information[21]
- Repeated reading, so that difficult material becomes familiar and routine[22]
- Acquiring information base for future actions and evaluations[23]
- Sorting and prioritizing material in order to read only that which is needed[24]
- Looking for information that isn't understood and ask for clarification[25]
- Understanding rights and benefits

Writing is used at work:

- Daily[26]
- To fill out forms (workers are more likely to complete forms and job orders than to write in paragraphs)[27]
- To communicate informally in order to get an idea across[28]
- To edit as required for specific occupations such as wordprocessing[29]
- To market and promote goods and services[30]
- To perform tasks such as keypunching, marking products, composing blueprints[31]

- to label information (using titles, abbreviations, symbols, color codes, arrows, lines)[32]
- to make notes for self-reminders and co-workers[33]
- to record duties performed[34]
- to prepare signs[35]
- to prepare instructional manuals for internal use[36]
- to modify standard forms and charts to make needed information more accessible[37]

Math is used at work:

- in reading numbers on documents[38]
- together with reading and writing, in tasks to complete and understand forms that involve counting and arithmetic (inventory sheets, quality control
- to understand relationships, logic, measurements, and orders of magnitude[39]
- to understand statistical process control, probability, normal distributions, standard deviations, and control charts[40]
- in a way that connects practical uses, intuition, and concepts relating geometry and measurement, statistics and probability, patterns and functions, logic, and numerical analysis [41]
- to understand graphs and charts
- to understand pay stubs
- to understand scheduling and payrates (using a time clock, overtime, vacation time, sick days).

Section 3: Designing instruction for the workplace

When designing workplace literacy programs, begin by asking these questions:

1. What are the work-related reasons for instruction? Does the student need to pass a specific competency test, to improve performance in specific tasks, to learn work specific content in a vocational training curriculum, or to stay abreast of new technology?

2. What occupational content and materials are involved? What kind of materials or content will the student need to use? What materials and information will help the student get what he or she needs? How broad a mix of standard instruction and occupation-specific instruction should be provided?

3. What is the time line for instruction? How much can be taught within a given time? How much time is available weekly?

4. Who are the technical experts for this occupational area?

5. How will instruction be provided? Here are four instructional designs:

- **Literacy providers assist a company's trainer or a vocational educator.** In vocational training schools, reading or literacy specialists advise vocational content teachers. They help in diagnosing reading abilities, rewriting passages, tests, and handouts and developing techniques such as study guides and pre-teaching vocabulary. [1]

- **Literacy providers and technical experts coteach.** In coinstruction, the technical consultant presents technical content while the literacy provider develops exercises to help students process the technical content. Types of exercises are: asking students to paraphrase or summarize what they feel is most important; phrasing, listing and summarizing key points; and visual mapping (see Chapter 4). The literacy provider also can prepare worksheets of simplified occupational forms and text for practice.

- **Technical experts assist literacy providers.** Technical consulting is needed to assure appropriate occupational materials are used in basic skills instruction with emphasis on important occupational information.
- **Peer tutors consult on technical issues.** Peer-tutoring taps the occupational exper tise of fellow workers. In one situation, group peer tutoring helped union members pass a licensing exam by discussing test information with union members who had already passed the test. [2] Peer tutoring places experienced workers in the role of experts no matter what their literacy skills. Experienced workers could serve as spoken language tutors for an English as a Second Language (ESL) program. Role playing, presentations, and vocabulary contributed by peer tutors could serve as a basis for reading instruction for both groups.

Occupation-focused instruction: job-related assistance and technical preparation. There are two basic ways to go about designing occupation-focused instruction. [3] (The next pages briefly illustrate the features of both types of programs.)

- The first one, called "**job-related assistance,**" is a short-term basic skills instruction with the goal of helping workers accomplish specific tasks and immediate goals more efficiently. Although it involves basic skills acquisition, its intent is <u>not</u> the long-term development of literacy.

- The second one, called "**technical preparation,**" is a more comprehensive approach whereby basic skills are taught in the context of vocational training or job upgrading.

Developing an entire technical preparation curriculum is an ambitious project. It is warranted only in circumstances such as training in an industry that is the focus of a community's economic development, for retraining in a large company, and for training in service occupations (health care, hotel and restaurants, and secretarial) which have continuous need for entry level workers. It is the newest and fastest growing type of occupational literacy instruction program. In this type of program technical knowledge and literacy skills are developed together.

Both approaches may be necessary and in practice, a program can contain both. One example of a "mixed" program is long-term instruction with the goal of preparing experienced workers to take an industry-wide certification test. Because workers already have the job knowledge they need to succeed, the short-term goal is to develop the basic skills needed for the short term goal of passing the test. However, the long time line of the program allows workers to learn general literacy skills.

<u>Job-related assistance:</u> Job-related assistance tends to be a "quick fix" to make the worker immediately more functional in the workplace.

Features of job-related assistance instruction:

- The instructional objective is to increase literacy skills used in performing a limited number of specific, well-defined occupational tasks.

- Non-occupational language examples and concept terms are used sparingly

- The instructor helps students understand and recognize main structural features of specific formats (test items if the objective is to pass a test; job forms used in tasks in which the employee must improve)

- The instructor provides practice in occupational use of language and materials. If students are using a handbook to prepare for a certification test, they learn to find cues of important information and to change the information into possible test questions. If a manual is being used in reading instruction, students should learn how to use the manual for work: determining what is needed, finding the right part of the manual, locating specific information, and deciding how to use the information. In math instruction, students use examples and numbers that pertain to their jobs.

- Instruction includes discussion, goal setting, and language exercises

Example activities of job-related assistance include:

- teaching use of a ruler
- teaching to read maps
- preparing union members for a certification test
- teaching math skills needed for admittance into an apprenticeship program

Features of technical preparation programs: Teaches literacy skills using occupational content and teaches occupational content using language activities.

- Uses vocational-technical materials as a resource in developing instructional content.

- Uses standard literacy and reading materials to develop instructional content.

- Uses a mix of language activities to process vocational-technical content.

Example activities of technical preparation programs:

- presentations, demonstrations, (either in person or by television, film, video), hands-on experience and field trips present vocational-technica' content.
- simulations used for practicing job skills.

- team or group activities to promote cooperation.

- skill exercises (math, spelling, word attack, comprehension) using occupational content to gain proficiency.

- class discussions used to problem solve and plan. For example, students may discuss an inventory, staff, or production problem. (This may be simulated or real.)

Occupation-focused instruction for the beginning reader. Often occupation-focused instruction is thought of as appropriate for employees who are classified as "mid-level" literates. "Mid-level" literates are defined as those who score between 5th and 9th grade levels on standardized reading tests. They already have knowledge of word attack skills and can read simple texts. However, they lack the knowledge, vocabulary, language skills, and reading comprehension strategies to understand and use technical material or to discuss, make decisions, and solve problems.

Sometimes the focus on upgrading the skills of "mid-level" literates is interpreted to mean that a mid-skill level has to be reached before an employee can benefit from occupation-focused instruction. The argument is that students have to "develop the mechanics" of reading and writing before they are able to benefit from instruction in technical materials.

These beginning readers need to develop skills in sounding out words using familiar and regular sound-letter patterns and developing a fluent rate of reading using text with familiar vocabulary and discourse patterns. This does not mean that beginning readers should be excluded from occupation-focused instruction. They need to develop technical knowledge and expanded language to keep pace with job demands.

Occupation-focused activities can be added to beginning reading instruction. These activities can be used to develop knowledge of technical vocabulary, general and technical knowledge concepts, and spoken communication. The following are suggested activities to use with beginning readers to supplement beginning reading and writing instruction:

- integrate technical vocabulary into standard vocabulary instruction
- use reading to students to familiarize them with style, content, and features of occupational material
- use thinking-aloud practice to help students check their understanding and feelings so they can act appropriately
- talk with students about language used on the job so they become aware of how language can be used intentionally and strategically
- include discussion exercises and meetings as regular activities so students practice using language to plan, make decisions, and solve problems
- use role play to practice efficient and correct verbal communication
- ask students to paraphrase vocational content, and use what students say as the basis for language experience exercises

Section 4: Using computers for teaching basic skills to adults

Technology is revolutionizing the workplace; business, industry, and labor organizations use technology to upgrade skills of workers. A certain faith in technology exists in the modern mind.[1] This faith can help adult students overcome feelings of inadequacy as they approach the task of learning basic skills as adults.[2] Computers offer a face-saving way to learn basic skills in a way different from school learning. Many under-educated adults have not had good experiences in school. Using computers allows adults to learn basic skills in new ways — so that they don't have to relive experiences with frustration, failure, and humiliation that they may have endured as children in school. Use of computers in instruction offer other advantages.

Advantages:

- **Privacy:** Only students and their teachers or tutors need to know the actual level that the learner is on. Once adult students learn how to operate the com puter, they can work independently without anyone's knowledge (other than the teacher or tutor) of the level of difficulty.

- **Individualization:** Instruction can be tailored to the individual's need rather than to those of the group. The teacher can individualize not only the pace of learning but also the content and presentation to the needs and interests of the individual adult student.

- **Achievement gains:** Some research studies have demonstrated better than average gains through use of technology.[3,4,5,6,7] However, achievement gains may not be due to the medium of instruction. Whether these gains can be maintained over time or whether skills, once acquired through using comput ers, can be transferred to daily life and retained re quires further research. We can say with some degree of certainty, however, that adult students learn more rapidly using computers.

- **Cost Effectiveness:** An extensive evaluation[8] of an urban technology literacy center illustrates that using

computers is no more expensive than traditional instruction with advantages in achievement gains. In fact, more students than originally anticipated could be served through using technology in instruction.

- **Control of learning:** Adult students gradually take control of learning as they learn how to use the computer. This control of one's own learning processes is perhaps the most compelling reason to use computers.

- **Flexibility in scheduling:** Adults have busy schedules. Literacy classes have to be associated with job and family responsibilities. "Drop-in" computer centers at the worksite offer flexibility for adults to get instruction before or after shift changes or during break periods. While computer aided instruction may not eliminate the need for group class instruction, it can open up opportunity for learning in a student's free time.

- **Open entry-open exit:** Adult education teachers and tutors are very aware of the difficulty of scheduling classes for adults. Work and busy personal lives run counter to regular schedules. Adults frequently drop in and out of programs; instructional use of computers enables teachers and tutors to start where students leave off, saving valuable time for both. Student records can be easily stored on computer disks, offering a confidential and convenient means of retaining student achievement data.

Now let's consider the problems that can be encountered in using computers for instruction. These must be considered before adopting computers or any form of technology as a vehicle for instruction.

<u>Disadvantages:</u>

- **Change:** Technology is constantly changing. What seemed "state of the art" several years ago is now "primitive". Continual upgrading is necessary to take advantage of the best that technology has to offer.[9] Program administrators and teachers need to keep current with evolving technology. Regular reading of computer education journals and attendance at conferences are good ways to keep informed about changes in computer technology and applications to instruction.

- **Lack of compatibility:** Lack of compatibility among machines makes identifying and using appropriate software difficult. Use of software evaluation guides helps identify software appropriate for a given computer.

- **Cost:** High cost used to be a major barrier to purchasing computers. Fortunately, costs have come down so that under-funded literacy councils often can afford to buy computers and software. Sometimes computers used by clerical staff at the worksite can be used after hours for instruction.

- **Pressure to make rapid decisions:** Money for computers sometimes results from an unexpected "windfall", leaving little time to make informed decisions. Instead of

careful planning which should precede innovation, administrators must "use it or lose it"; they may fall prey to a sharp salesperson who may not have the best interests of students in mind.

- **Lack of expertise:** A trained resource person needs to be available to set up equipment, fix malfunctions and, most importantly, train teachers and tutors use computers. This resource person also needs to keep computer technology up and running but also needs to understand adult literacy so that materials are current and appropriate.

- **Lack of training:** Unfortunately when program administrators decide to adopt technology, especially computers for instruction, usually the first consideration is hardware and then software. Only after those decisions are made does the realization come that teachers and tutors need to be trained. Instead of training as the first step, it is often an afterthought when the "miracles" of modern technology aren't automatic.

- **Inappropriate instruction:** Most computer software is designed for children. However, it may be adapted for adults if care is taken in the way it is presented. Many instructional games can be used if its graphics are not too obviously childish. As more funding is becoming available for adult programs, vendors are producing more appropriate materials. One of the most useful pieces of software is simply a versatile word processor which allows the teacher or tutor to create job-specific basic skills activities or permits students to engage in practical on the job writing.

- **Role changes:** When students use computers and have control over personal learning agendas, they become more independent, even self-actualized. Sometimes teachers and tutors feel displaced by technology. Especially tutors who derive satisfaction from one-to-one instruction may resist computer technology. Their role has changed; it is not any less important—but different. Training can overcome these feelings of displacement and give tutors a viable and important role in instruction.[10]

Questions to ask when adapting technology: After looking at advantages and disadvantages of computers in instruction, adult literacy program administrators and teachers should use these questions when thinking about computers for workplace literacy instruction. These questions are best considered before computers and software are purchased.

- **Who is the target population?** Planning is easier if the target group is well defined. For example, planners may decide to begin using computers with beginning adult readers who are native speakers of English or with GED students. Focusing on one target group at a time allows computers to be introduced gradually and energies channeled in one area. Staff training can also be gradual; lessons learned with one target group can benefit another.

- **What is the purpose in using computers?** The purpose should be clearly stated in the beginning so that all—administrators, teachers, tutors— have similar expectations. The purpose may be to attract more students to a workplace basic skills program. Or the purpose may be to increase test scores —or raise adults' levels of competence in functional workplace tasks—or the purpose may be to offer options in instruction. A common understanding of the purpose leads to similar expectations of outcomes on the part of all involved in program planning.

- **Is a teacher creation option important?** Creative teachers or tutors may want to tailor instruction to the needs and interests of individual students, especially in creating job-specific basic skills instructional activities.[11] For example, volunteer tutors have created vocabulary lessons geared to job-preparation needs of displaced homemakers enrolled in a literacy council's basic skills program until they were qualified to enter a job-training program.[11] The flexibility to customize software gives teachers and tutors viable and important roles in using computers.

- **What are the program's long-term technology goals?** Is the purchase of a computer viewed as a single purchase or as one step in a series of purchases? A strategic plan for purchasing hardware over a period of time makes sense. This planning process also should build in systematic training as elements of new technology are added to an existing computer system.

- **What are the training needs?** What staff or volunteers are knowledgeable about computers? Can outside training , such as in the state department of education, be tapped for help with training? Some training may be available as part of ongoing staff development efforts. Another source of training may be available from the vendor. Training needs and resources should be carefully considered before a purchase.

- **Where will the technology be located?** Not only must space be available for the computers, but it must be conducive to appropriate use. A computer program that employs voice synthesis, buzzers, and so forth must be located so that it does not disturb other students; or it must have the option of headphones or turning off sound. Remodeling, if necessary, should take place before the computer arrives; those costs need to be considered in making a purchase. Security should be another consideration in using any kind of technology.

- **What ongoing service is available?** Maintenance agreements should be carefully checked to ensure that routine maintenance and repair are available. A trained staff member or volunteer can do certain types of routine maintenance and fix minor problems. The possibility of "loaner" machines during major repair work should be checked in advance.

Conclusion:

With all these considerations and cautions, the reader may be wondering why programs choose to use computer technology. While computers do necessitate extensive training for staff and volunteers, that training has positive effects. Adopting computers for instruction offers possibilities for staff revitalization and retraining.

Another very compelling reason for using computers is the impact on students. Students find a new sense of empowerment and control over learning that was expressed especially by the least able readers. Not only are teachers revitalized, but so are students.[12] The positive effects of computer technology do not appear to be due to novelty alone; students' attendance records are reported to improve with use of computers.[13]

Computers make learning to read an acceptable process for a low literate adult. Even learning rudimentary computer skills introduces literate people with modern technology. This helps them in job training and breaks down barriers to using modern daily applications of computer technology such as bank machines. Low literate people who acquire skills with technology have the tools of modern society not only for basic skills instruction but also for daily living.

Chapter 4

SAMPLE ACTIVITIES

SAMPLE ACTIVITIES

This chapter is a collection of sample learning activities appropriate to the following topics:

- **Section 1: Occupational vocabulary**
- **Section 2: Using occupational forms**
- **Section 3: Reading comprehension**
- **Section 4: Oral communication**
- **Section 5: Occupational math**
- **Section 6: Reading charts**
- **Section 7: Problem solving lesson**
- **Section 8: Metacognition**

Section 1: Occupational vocabulary

Goals of this section:

- Teach technical vocabulary.
- Teach occupational vocabulary in relation to job tasks or teach vocabulary in relation to occupational concepts.

Student learning objectives:

- Recognize technical vocabulary in writing or speech.
- Use technical terms or synonyms in communicating on the job.
- Perform job tasks in manner that demonstrates knowledge of occupational concepts.

Activities:

- Introduce central concepts using idea maps.
- Group words based on meaning.
- Label objects or pictures.
- Use the terms in practice or simulations.
- Apply word attack skills to technical terms.

Examples:

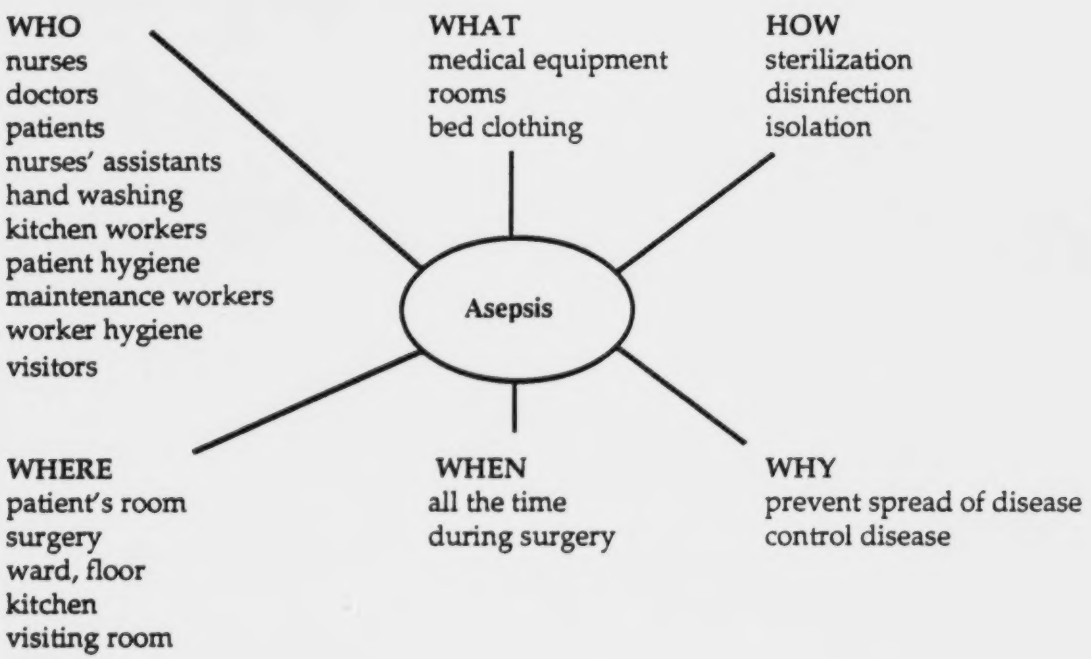
The following example is a vocabulary lesson applicable to the health care profession. The same kind of activities can be used to teach new technical concepts in other occupational areas.[1] These exercises could be used to teach health care workers the concept and word asepsis (without germs).

As you study "asepsis," (or other technical concepts) the map can be filled in as shown below. Idea maps can be used as study guides and compiled in a student-made training manual.

Activity 1: Idea maps

(See Basic Skills List: Occupational Vocabulary 2: Recognize meaning of terms)

Use an idea map. These questions were used to complete an idea map to teach the concept of asepsis. Who needs to be without germs in a hospital ? What needs to be without germs? Where in the hospital? When is asepsis needed? How do you practice asepsis? Why is it important?



Activity 2: Group words in lists[1]

Activity 2-a: Joining

"Joining" is an activity in which students group words together based on a shared relationship.

Example: Present this list to students:

gown	antiseptic	measles
mask	disinfect	chicken pox
gloves	sterilize	appendicitis

Ask, "How are the words related?" Show the students categories (isolation, surgery) and ask them to put words into the appropriate category. The words may go into either category. Any answer is acceptable as long as the student can justify the choice.

1. Dupuis, M. M., Lee, J. W., Badiali, B. J., & Askov, E. N. (1989). *Teaching reading and writing in the content areas*. Glenview, IL: Scott, Foresman, & Co.

This is an illustration of how students might categorize words (Note that some words are in either category. Gown, mask, and gloves pertain both to isolation and to surgery. Measles and chicken pox are communicable diseases where patients are put in isolation. Appendicitis is an operable disease):

categories

isolation	**surgery**
gown	gown
mask	mask
gloves	gloves
measles	appendicitis
chicken pox	

Activity 2-b: Excluding

(See Basic Skills List: Occupational Vocabulary, 1. Identifying words in Context)
"Excluding" is an activity where students find the word that doesn't belong in a group.

_soiled
_sterile
_contaminated
(Sterile doesn't belong because it is the opposite of soiled or contaminated.)

_asepsis
_sterilization
_disinfection
(Asepsis doesn't belong because it is the result of either sterlization or disinfection.)

Activity 2-c: Selecting

(See Basic Skills List: Occupational Vocabulary, 1. Identifying words in Context)
"Selecting" is an activity where students make a choice, often involving synonyms.

The teacher makes a statement using a technical term and asks the student to choose the meaning from a list of possibilities.

For example: Asepsis prevents germs from growing and spreading. Asepsis means the same as:

_cleanliness
_communicable
_contamination
(The answer is cleanliness because you control germs by keeping things clean.)

Activity 2-d: Implying

(See Basic Skills List, 2: Recognize meaning of words.)
"Implying" shows relationships, often through analogy.
For example: Sterilization is to surgical asepsis as disinfection is to:

_medical asepsis
_cleanliness
_contamination

(The answer is medical asepsis. Surgical asepsis is achieved through sterilization and medical asepsis is achieved through disinfection.)

Activity 3: Labeling

(See Basic Skills List: Occupational Vocabulary, 2. Recognize meaning of words.)
Label objects or pictures. Show pictures and labels of equipment and supplies used in infection control, such as autoclave, disinfectants, cleaning materials. Ask students to match labels to pictures.

Activity 4: Simulation

(See Basic Skills List: Occupational Vocabulary, 2. Recognize meaning of words.)
Use technical terms in practice or simulation. There are many ways to relate asepsis to actual practice. Observe an asepsis procedure and list the steps of the procedure.

Example:

Step 1: Take off your rings and watch.
Step 2: Wet your hands and soap and leave the water running.
Step 3: Soap your hands and cover your hands with lather.
Step 4: Wash your palms and back of hands using a circular motion. Do 10 times.
Step 5: Wash your fingers and thumbs by rubbing them against your forefingers.
Step 6: Rinse your hands by holding your fingers down so the water will run off the tips.
Step 7: Dry hands with a paper towel.

Students can observe through a field trip, on-the-job, or using films or video. Students can then demonstrate an asepsis procedure and keep a journal of observed good and bad asepsis practices.

Activity 5: Word attack

(See Basic Skills List: Occupational Vocabulary, 2. Identify roots, prefixes, suffixes.)

Activity 5-a: Prefix

Use asepsis as an example of the prefix "a" meaning "without"
Provide other examples such as:

atypical amoral asexual

Activity 5-b: Root Word

Use asepsis as an example of the root word "sep"-meaning decay. Provide other examples such as:

septic tank
antiseptic

Activity 5-c: Suffix

Use asepsis as an example of the suffix "is" to illustrate a noun form and how "is" can be changed to "tic" to describe something (adjective form).

Provide a list of other examples such as:

prosthesis
prosthetic device
psychosis
psychotic reaction

Activity 5-d: Syllabication

Use asepsis to teach syllabication by asking students to divide the word into syllables.

a- sep-sis

Activity 5-e: Apply Phonic Skills

Ask students to apply phonic skills to the word asepsis and review phonic skills as needed.

Section 2: Using occupational forms

Goal of this section:

- Facilitate understanding of occupational forms.

Student learning objectives:

- Identify features of a job form that are relevant to one's job.
- Use occupational forms to perform job tasks.

Activity 1: Read a bill of lading

(See Basic Skills List: Reading A.3: Recognize purpose, parts. . . associated with various formats.)

Here are two group exercises to teach warehouse clerks to read a bill of lading[1] In the first exercise, students are shown a bill of lading, its important parts and vocabulary (terms, symbols, and abbreviations). Uses of the bill of lading are pointed out to students.

Step 1: Show a bill of lading on an overhead projector and provide each participant with a handout that highlights important parts.

top:	carrier/billing information
middle:	product description and quantity
bottom:	bill of lading summary

Step 2: Point out important parts, uses, and vocabulary:

Ship to: - This tells where the shipment is going

Car/Van# - This identifies the shipping vehicle. The ware house clerk records the number of the carrier's vehicle.

Seal # - Each door of the carrier's vehicle has a seal with a number. The warehouse clerk records the seal numbers.

Shipping order # - This number identifies the transaction. The warehouse clerk refers to this number when talking about the transaction.

Bill of Lading	Shipper No. Carrier No. Car/Van No. Seal No.

Ship to:	From/Shipper:
Street:	Street:
Designation: Zipcode:	Origin:

No. Units	Prod. Code	Weight	Desc. of Articles	Rate	Total

Activity 2: Simulation

(See Basic Skills List: Reading B.4: Follow sequenced illustrations to complete a task.)

In the second activity, students participate in a simulation in which they interpret information on a bill of lading for a supervisor requesting the information by phone. Students practice using the bill of lading as part of a realistic work task. In this task, the warehouse clerk locates and interprets information on the form in response to a supervisor's request. Each student is given a worksheet with the supervisor's questions.

Here are three of the supervisor's questions. (Note the realistic use of style and terminology in the supervisor's questions.)

- Question 1. "Can you give me the street address where we're sending the shipment?
- Question 2. "I need the Car Number and I can't read it on my copy. Can you make it out on yours? What's the Car Number?"
- Question 3: What's the routing on this order?"

(In a related exercise, students can take the role of supervisor and warehouse clerk).

Section 3: Reading comprehension

Goal of this section:

- Teach recognition of idea relationships

Student learning objectives:

- Put information from simulation and written text into sequential order.

Activities:

- Students put information obtained from demonstration and written text into sequential order.

Example: The following example is taken from a training manual written for truck drivers.[1] Teachers can develop similar activities using technical materials which their students use for training or on the job.

Activity 1: Sequential Order

(See Basic Skills List: Reading A.2: Recognize idea relationships). The teacher demonstrates ways to prevent rollbacks (this can be done using video or a computer simulation). Students write the procedure using a form designed by the teacher.

"Avoid rollbacks so you don't hit someone. Partly engage the clutch before you take your foot off the brake. Put on the parking brake. Release the parking brake after you have applied enough engine power to keep from rolling back."

The teacher asks students to complete this exercise using the information they learned from the demonstration and the text. Then students demonstrate the procedure using the completed exercise as a script. (The italicized writing indicates the student's response.)

I'm going to show you how to avoid rollbacks.
When you start up-hill you need to avoid rolling back.
Otherwise you will hit someone.
Step one: *Partly engage the clutch*
Step two: *Take your foot off the break.*
Step three: *Put on the parking break.*
Step four: *Apply enough engine power to keep from rolling back.*
Step five: *Release parking break.*
If you do this then you won't roll back.

Section 4: Oral communication

Goals of this section:

- Teach key information points of a telephone message
- Teach listening techniques
- Teach "message taking" skills in relation to a student's occupational context

Student learning objectives:

- Record messages from telephone conversations
- Extract information from an extended message
- Identify kinds of information to be included in message.

Key information points for message:

- Date and time of the call
- Name of the person who was called
- Message
- Name of the caller
- Student's name and title

Activity 1: Role play telephone conversation

(See Basic Skills List: Listening A & B.)

Many workers need to answer telephones and take messages for others. In this activity, students can role play answering the telephone and taking messages. The content of the role playing can be changed so that it is relevant to the student's work environment. Students, using the script on page 4-11, will listen to conversations and record messages.

Script for role-playing:

Student: Hello, 3 East, _____, nursing assistant speaking. May I help you?

Caller: Yes, may I speak to Don Lewis?

Student: I'm sorry. He's at lunch right now. May I take a message.

Caller: Well, I do really need to talk to him. Okay, yes. Please tell him to meet Mark and me at 5:00 in front of Champs Restaurant.

Student: Could I please have your name.

Caller: Yes, my name is Sam Valentine.

Student: Could you please spell that for me?

Caller: Yes, S-a-m V-a-l-e-n-t-i-n-e

Student: Thank you. I'll give him the message.

Section 5: Occupational math

Goals of this section:

- Facilitate understanding of occupational forms and charts
- Teach addition

Student learning objectives:

- Perform computation
- Use occupational forms and charts to abstract information for computation problems

Fluid Intake			Fluid Output		
Time	Oral	Parenteral	Time	Amount	Kind
9 a.m.	H_2O Milk Coffee OJ	100 cc 236 cc 150 cc 100 cc		200 cc	Urine

Note: This form can be used for a variety of lessons: recognizing vocabulary, identifying abbreviations, recording given information.

Example: Facts to know

- This form is used to monitor a patient's intake of fluids and output of fluids. Not all patients need to have their intake and output measured. A doctor will order this.
- Most people need 1500 to 2000 cc of fluid a day
- Fluids can be anything that turns to a liquid at body temperature (e.g. water, milk, juice, soda, ice cream, jello)

Activity 1: Solving math problems

(See Basic Skills List: Math, Numbers A.4: Solve occupational word problems.)

The teacher will present occupational information in a form and ask students to solve math problems.

- Students will add the numbers in the parenteral column
- Teachers should ask students how many cc's of fluid has the patient been given.
- Teachers should ask students if the patient has been given enough fluids for the day.

Activity 1a:

Prepare different scenarios and have students determine a patient's intake. For example, what was the patient's intake for one meal? What was the patient's intake for the day (7 a.m. to 3 p.m.)?

Section 6: Reading charts

Goal of this section:

- To teach reading information from charts

Student learning objectives:

- Transform information from chart to word problems

Activity 1: Cross-reference information

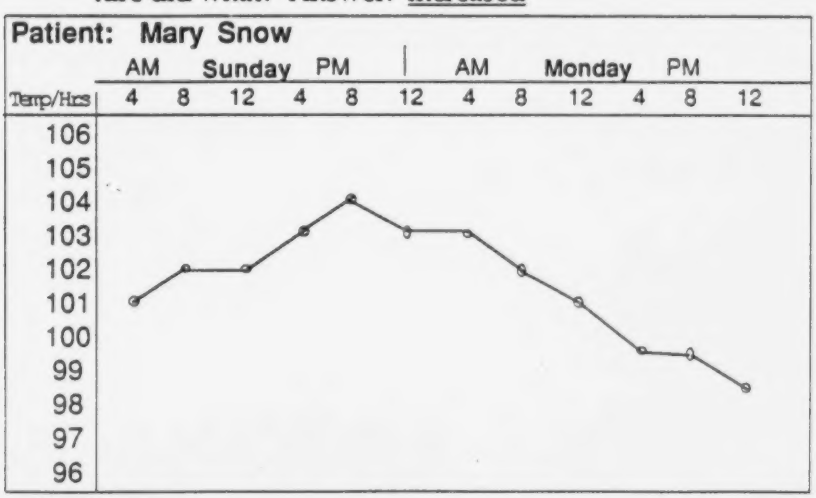
(See Basic Skills List: Reading B.7: Cross-reference information on tables or charts.)

The teacher will present information in chart form and ask students to answer questions based on information in chart

Example: This chart logs temperature for a patient, Mary Snow. It records her temperature for the first two days in the hospital. Charts may be used to record information from other occupational content areas.

Students should answer the following questions:

1. What was Mary's temperature when she was admitted to the hospital? Answer: 101°
2. How often are temperatures taken? Answer: every 4 hours
3. At what time was Mary's temperature the highest? Answer: 8 p.m. on the first day
4. From 4 a.m. to 8 p.m. on the first day, Mary's temperature did what? Answer: increased



Section 7: Problem solving lesson

Goal of this section:

- To teach language forms appropriate to problem solving activities

Student learning objectives:

- To acquire problem solving techniques
- To use language to discuss and solve problems

Activity 1: Using Problem Solving Language

(See Basic Skills List: Speaking, B. 1. Use question and answer format, C. 3. Develop and evaluate ideas, 4. Support group process.)

This is an example of using language for communicating about a problem. The teacher gives each student a set of cards[1] to be used in a discussion about an occupational problem. In the hotel/food service industry, the discussion can be a simulation of a staff meeting. In the housekeeping department, the topic might be problems with scheduling or supplies. In food service, the problem might be coordination and communication between the cooks and waitresses. To use the cards, set these rules:

1. Use one card per sentence or question and speak one sentence or question per turn.
2. Decide what card to use by referring to the cues on side 1.
3. Look at side 2 for examples of language terms to use in creating your response.
4. When making the statement, first name the format part (The name is in capital letters on side 1). Then give your statement or question.

Side 1

PROBLEM
What's the problem?
What's wrong?

Side 2

the problem is.....
it's wrong that .

Side 1

DESCRIPTION
Tell more about it.
Give an example.
Say it another way.

Side 2

specifically.....
for example.....
in other words.....

CAUSE
What makes you think so?
Why is that?
What happens as a result?
What could that do?

because.....
one reason.....
as a result.....
the effect.....
if - then.....

OPTION
What else could it be?

another possibility.....
an alternative.....
or.....
maybe.....

Side 1

COMPARISON
Compare and choose

SOLUTION
What can be done to solve the problem?

Side 2

and.....but.....so.....
although.....
nevertheless.....
therefore.....

a solution ... one answer might be...

The student cues himself/herself using side 1 of each card.

What is the problem?

Tell more about it.

Why is it a problem?

What can be done to solve the problem?

What else could it be?

Compare and choose.

Here are statements that were made using each card.

The problem is that we can't make whole wheat rolls.
Whole wheat rolls are our specialty and there's a large demand for them.
Because we ran out of whole wheat flour, we can't make our specialty.
We can make another type of roll using different flour.
We could order more flour...or...
We could offer rain checks.
Maybe we could no longer offer whole wheat rolls.
An alternative is we could buy wheat berries and grind our own flour.
Other rolls don't sell as well.
Therefore, we could offer rain checks, but we still need to order more whole wheat flour since we want to offer whole wheat rolls.
We don't have a grinder to grind our own flour.
So,we will offer rain checks and order more whole wheat flour.

Section 8: Metacognition

Goals of this section:

- To promote efficiency by using reasoning and basic skills on the job.
- To teach students how to apply knowledge from a familiar context to a new, unfamiliar context

Student learning objectives:

- Students describe expectations or ask questions about new situations.
- Students state when they don't understand something
- Students describe strategies they use to repair comprehension failure.
- Students explain reasons for actions and how these actions can help them get their job done.
- Students can state several possible actions or strategies, choose a strategy, and evaluate its effectiveness.
- Students describe how they use reading, writing, oral communication, and math to do their job efficiently.
- Understand analogies between performing a job task and using basic skills.

Explanation:

Language is closely tied to thinking. We use language to help us gain awareness and control of our thinking, understanding, decisions, and actions. By putting our thoughts into words we become aware of them, examine them, and create them. Efficient job performers are aware of how they use reading, writing, speaking, listening and math to get their job done.

Activities:

(See Basic Skills List: Speaking C: Problem solving, decision making, planning.) The teacher encourages students to express the level of their understanding. The teacher models thinking, actions, or strategies as they try to solve a new problem or understand a difficult text.

The objectives of the activities are to:

- Provide opportunities for students to realize and express what they know.

- Provide opportunities for students to give interpretations of experience in which there is no right or wrong answer.
- Teach students efficient strategies they can try out in simulations.
- Provide opportunities for students to talk about their job and how they use reading, writing, speaking, listening, and math at work.

Activity 1: Modeling

- Example 1: This is the way a nurse, rated a superior job performer, explained how she used reading, writing, speaking, and listening to do her job. [1]

"Writing the description of drainage or suction and trying to find correct words that would tell others exactly how it smelled or looked is hard. When I write a description I try to compare it to something that others can identify with (size, color, consistency, amount). I use abbreviations and try to add more accurate detail on patient descriptions. I try to talk to the patient and observe the patient when the patient first gets up to get more accurate readings. I read other nurses' notes to see how they wrote up similar symptoms."

- Example 2: This is the way a superior-rated electronics trainee explained how he used language to get the job done. [2]

"When doing an experiment that doesn't work, and I can't figure out why, then I go back to the beginning to see what I'm supposed to be doing. If I can't figure it out, then I ask Larry."

Activity 2: Verbalization

Enable students to talk about knowledge and strategies they use to perform a task. Ask them to name a task they are expert at and ask them to teach this task. Use prompts to encourage students to state steps involved and how they go about doing the task, what they look for, what decisions they make, how they realize they have a problem, how they correct it, and how they know when they have finished the task.

Activity 3: Position Statements

Ask students to give their opinions in response to various situations such as films, newspaper articles, instruction. If possible develop projects in which students take managerial roles requiring judgments involving cost-benefit analysis.

Activity 4: Analogies

Students and teachers make analogies between occupational activities and basic skills. Here is an analogy comparing assembly work to the writing process.[3]

PLAN is the idea stage. In automobile production, planning is carried on by the engineering departments. Engineers are responsible for deciding what kind of vehicle to produce based on factors like public demand and how to produce the vehicle economically. Similarly, the writer must decide what kind of information to produce based on the audience that will read it. He/she must also decide how to express that information cleanly and clearly. In short, he must design a vehicle to carry his message to his readers.

WRITE is the production or assembly stage. In producing an automobile, assembly must take place in specific order. If that order is changed, an inferior product results. It is the same with writing. Every communication from basic sentences to research papers follows construction patterns.

READ is the inspection stage. No vehicle leaves the assembly plant until it has been examined to insure that it was built correctly. No writer should send out a written document without first examining it to make sure that it has been well constructed.

REVISE is quality control. In automotive production, problems sometimes occur. These problems may require minor adjustments or they may require major design changes. The same applies to writing. Sometimes problems occur that require minor mechanical adjustments-punctuation mistakes, spelling errors, or faulty grammar. Some problems are more serious and require major design changes.

Chapter 5

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REFERENCES

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Chapter 6

EXHIBITS

A List of Basic Skills for the Workplace

This is a general list of occupational basic skills to connect language to work materials and tasks. In this list, reading and writing precede listening and speaking. This was done to show that reading and writing instruction can contribute to the development of effective spoken language communication at work.

Language

Occupational vocabulary

(General, technical, and conceptual terms)

1. Identify words in context.
2. Recognize meaning of terms
3. Identify abbreviations and symbols.
4. Identify sound patterns in words.
5. Identify roots, prefixes, suffixes.
6. Recognize spelling differences between words.

Reading

(Text formats: passages containing occupational content; rules, instructions, procedures, checklists, case studies, memos, letters, bulletins, brochures, newsletters, catalogs, manuals, textbooks, tests, reports, legal documents, non-text formats: tables, charts, graphs, diagrams, illustrations)

A. General reading skills.

1. Recognize main idea and details.
2. Recognize idea relationships (sequence, comparison, causation).
3. Recognize purpose, parts, and reading strategies associated with various formats.
4. Transform and infer information (paraphrase, classify, conclude, summarize).
5. Recognize errors or inconsistencies in presented information.
6. Recognize comprehension problem, source, and reason.

B. Occupation-specific applications

1. Determine topic or gist of material.
2. Locate individual facts or specifications in text.
3. Follow detailed directions to complete a task.
4. Follow sequenced illustrations to complete a task.
5. Locate page, title, paragraph, figure, or chart needed to answer a question or solve a problem.
6. Use skimming or scanning to determine if text contains relevant information.
7. Cross-reference information in tables or charts.
8. Apply information to locate malfunctions or decide on a course of action.

Writing

A. Recording (Occupational forms)
   1. Copy words or codes from one document to another.
   2. Place routine identification information on forms (names, addresses, dates, times).

B. Routine notes and messages (Phone messages, informal notes, brief memos)
   1. Legibly record spoken statements.
   2. Complete standard forms.
   3. Communicate routine information (descriptions, directions, requests, replies).

C. Storing, retrieving, and organizing (Labels, lists, notes, outlines, diagrams)
   1. Use labels to tag information for later use.
   2. Use lists and notes to store and retrieve information.
   3. Use outlines and diagrams to plan, remember, and organize information and actions.

D. Authoring (Formal messages, memos, letters, reports)
   1. Decide on subject, purpose, audience, and format.
   2. Limit subject and focus according to purpose, audience and format.
   3. Organize information into paragraphs and sentences.
   4. Review and edit for completeness, clarity, paragraph development, sentence grammar, and punctuation.

Listening

(Directions, conversations, conferences, meetings)

A. Verbal and non-verbal information
   1. Follow spoken directions.
   2. Extract information from extended message.
   3. Follow line of thought as it develops among several speakers.
   4. Place information in the "big picture."
   5. Recognize non-verbal information (tone, gesture, attentiveness).

B. Analysis and evaluation
   1. Recognize shifts in communication purpose.
   2. Determine underlying assumptions and biases.
   3. Evaluate message in terms of credibility, usefulness, and appropriateness.

Speaking

A. Workplace communication (Messages, requests, reminders, instructions, warnings, greetings, personal expression)
   1. State information concisely and efficiently.
   2. Check that message has been understood.
   3. Display responsive and appropriate language behavior.

B. Public contact (Phone, face-to-face)
1. Use question and answer format to establish and meet need.
2. Provide accurate and adequate information and referral.
3. Keep up company's positive image.

C. Problem solving, decision making, planning
1. Contribute information in keeping with the general topic.
2. Express opinions and judgments (use feelings, logic, aesthetics, ethics, or experience).
3. Develop and evaluate ideas (use analogy, generalize, hypothesize, explore implications, suggest alternatives).
4. Support group process.

Math

Numbers

A. Whole numbers
1. Recognize use (counting, ranking, identifying) of number.
2. Read, write, and count numbers.
3. Add, subtract, multiply, and divide.
4. Solve occupational word problems.

B. Fractions
1. Recognize concept of fraction.
2. Read, and write fractions.
3. Add, subtract, multiply, and divide.
4. Solve occupational word problems.

C. Decimals
1. Recognize concept of decimal.
2. Read and write decimals.
3. Compute using money.
4. Round off decimals..
5. Add, subtract, multiply, and divide.
6. Solve occupational word problems.

D. Percent
1. Recognize concept of percent.
2. Read and write percents.
3. Compute using percents.

E. Conversions
1. Relate fractions, decimals, and percents.
2. Convert from one to another.

F. Mixed Operations (multi-step problems)
1. Solve occupational word problems using more than one operation.
2. Compute averages.

Measurement

A. English and Metric systems
   1. Read and write measures.
   2. Use device to measure.
   3. Convert English to Metric and/or Metric to English.
   4. Convert from one unit to another within a single system.

B. Time
   1. Read and tell time (traditional and digital).
   2. Read 24-hour clock.

C. Calculator
   1. Recognize functions.
   2. Use calculators to solve occupational problems.

Estimation

1. Recognize concept of estimation.
2. Estimate measurement (length, angle, capacity).
3. Compute using estimation (rounding).
4. Determine reasonableness of results using estimation.

Algebra

1. Find an unknown value using a formula.
2. Identify appropriate formula.

Geometry (Shapes and Angles)

1. Recognize concepts of parallel, perpendicular, triangle, rectangle, square, and circle.
2. Recognize and name shapes (triangle, square, circle, rectangle).

Statistics

1. Collect and organize data into tables, charts, graphs, and maps.
2. Use coordinate systems (tables, charts, graphs, maps).
3. Use simple statistics in decision-making:
   a. average (mean, central tendency)
   b. spread (range, dispersion)

1. These items are taken from Drew, R.A. & Mikulecky, L. Appendix A. How to Gather and Develop Job Specific Literacy Materials for Basic Skills Instruction, School of Education, Bloomington, Indiana).

JOB TASK ANALYSIS [1]

Workplace literacy providers can benefit from understanding how trainers and vocational educators use job task analysis. Job task analysis is used as a basis for developing job descriptions, job performance evaluations, and competency based instruction.

Knowing about job task analysis can benefit literacy providers in two ways. First, providers can speak the same language (based on a common understanding of job tasks) as trainers . Second, providers can use job task analysis to develop their own tools--literacy task analyses--for the workplace.

Job task analysis breaks each job into smaller observable components. A job consists of many tasks. Each task is rated and listed by a combination of frequency, importance, and learning difficulty.

There are two broad categories of tasks: discrete tasks and continuous tasks. [2] A discrete task is easy to learn and takes little practice. Examples: pushing an "on/off" button or striking a specific key on a keyboard. A continuous task requires a great deal of practice. Examples: a hotel clerk makes room reservations; a clerk files documents. Because it is more complex and takes a longer time to learn than a discrete task, it is more difficult to recognize when the proper result is achieved.

The following sample tasks and steps for the job of service station mechanic-attendant iillustrates how tasks are written.

Job: Service Station Mechanic-Attendant.

Sample Tasks

1. Cleans and replaces spark plugs.
2. Adjusts and bleeds brakes.
3. Washes and waxes autos.
4. Orders supplies.
5. Opens and closes station.

Competency based statement for Task 1.

Able to clean and replace spark plugs properly within 20 minutes.

Sample Steps for Task 1.

a. Note plug location relative to the cylinder: remove plug covers, leads.
b. Remove all spark plugs.
c. Decide whether to clean, adjust, replace plugs.

A literacy task analysis is similar to traditional job task analysis but the focus is on what language, math, and problem-solving skills are needed to perform job tasks. A literacy task analysis is conducted by:

1. interviewing and observing workers on the job,
2. gathering the printed materials workers read to do their jobs,
3. understanding the thought processes used by skilled workers as they use printed materials to solve problems at work. [3]

Once job tasks are listed, each task is examined for sub-tasks involving basic literacy skills. The following sample literacy task analysis for the job of Warehouse Clerk illustrates this.

Job: Warehouse Clerk.
Sample literacy sub-task: Filling an order using a bill of lading.

Sample steps of the sub-task

1. Review bill of lading to determine who will receive shipment, what is to be shipped, who is the carrier, what is to be shipped, and when. Checks dates and fills order by date due.
2. Use specialized ID numbers on Product Code Charts to record what is being shipped and its source.
3. Correct the order to reflect the actual shipment and note reasons for change.
4. Leave brief notes regarding change or problems.

Sample literacy elements contained in the steps.

Understand technical vocabulary.
Comprehend needed part of bill of lading.
Scan and prioritize.
Read and understand specialized codes.
Compare and correct number of cases shipped to number of cases ordered.
Locate and verify maximum weight using information on form.
Use proper abbreviations.
Summarize legibly.

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This employer questionnaire was developed to survey the business community's perceived need for literacy services. The questionnaire is taken from Talan, C.S. (1987). Literacy Needs Assessment, Altrusa International Foundation, 332 South Michigan Avenue, Suite 1123, Chicago, Illinois, 60604.

BUSINESS AND INDUSTRY QUESTIONNAIRE

Please fill in to the best of your ability. Answer with percentages if you do not know exact numbers. Answer DO NOT KNOW if you do not have an estimate at all.

Name of Agency_____

Agency Address_____

_____Zip_____

Agency Phone #_____

Person Completing Survey_____

Title_____

1. How many different adults 16 and over do you have in your employ or in your membership each year? _____
2. How many of these employees/members do not speak English well?____
3. Do you require a written test for employment/membership/promotion?

   _____yes If yes, continue to question #4.

   _____no If no, proceed to question # 7.
4. How many potential members/employees have obvious literacy difficulties with this written test the first time they take it?_____
5. How many potential members/employees must take this test a second time?_____ third time?_____
6. If you find that an employee needs help with basic skills, do you refer him to a service provider in the community? If so, what is the name(s)?_____
7. How many of your employees/members have difficulty filling out forms or reading company/group literature?_____

8. In your opinion, if literacy instruction were free and easily available, would your employees/members be interested?

   _____yes. If yes, proceed to question #10.

   _____no If no, continue to question # 9.

9. Which of the following might your employees/members perceive as barriers to participation in adult literacy programs?

   _____time/day services offered
   _____fees or material costs
   _____location of services
   _____transportation
   _____lack of awareness of service
   _____stigma of illiteracy
   _____child care
   _____other, please specify_____
   _____

10. Does or did your business/group provide literacy services of any kind?_____
    If yes, please describe_____
    _____

11. Do you believe that your employees/members could benefit from literacy classes?
    _____yes _____no If no, why not ?_____
    _____

12. Do you believe that adequate literacy services are available in our community?_____

13. Would you be supportive of an employee who admitted a need for literacy services? _____yes _____no If no, why not?_____
    _____

14. If you could provide literacy services on your premises with little or no cost to you as an employer or group, would you be interested in learning more about how to set up such a service?_____yes _____no

    If yes, under what circumstances would you be willing to provide in-house literacy services?_____
    _____
    _____

    If no, why would you <u>not</u> be interested in an in-house literacy service?
    _____
    _____

Thank you for helping us by filling out this questionnaire.

A JOB TO BE DONE

PRODUCTIVITY THROUGH LITERACY

CENTRE COUNTY RESOURCES
compiled by
Project Literacy U.S.(PLUS)
Task Force
of Centre County

6-9

UPGRADE THE BASIC SKILLS OF YOUR EMPLOYEES TO MEET YOUR BUSINESS NEEDS

THESE ARE THE FACTS:

JOBS DEMAND HIGH LEVELS OF BASIC SKILLS. New technology and job restructuring require entry level and frontline employees to have higher math and language skills than ever before.

EMPLOYEES NEED TO UPGRADE BASIC SKILLS. Valuable people who lack job-related basic skills may be found in your company. In Centre County 1 in 8 adults does not have a high school diploma. This year, half of the applicants for employment with a major area manufacturer had scores on a Job Service test indicating math and reading skills below the 6th grade level.

THESE FACTS AFFECT YOUR BUSINESS:

- If you rely on alternatives to reading or writing in training, reporting, or preparing job instructions.
- If waste due to errors in measurement or procedures cuts into productivity.
- If written safety procedures are not understood by employees.
- If employees do not come forward to take advantage of training opportunities.

FOR ASSISTANCE IN ADDRESSING YOUR BUSINESS NEEDS...

...CALL ONE OF THE ORGANIZATIONS LISTED IN THIS BROCHURE.

These organizations can guide you in designing a job-related, basic skills program to suit the needs of your company.

COMMUNITY EDUCATION
STATE COLLEGE AREA SCHOOL DISTRICT
411 South Fraser Street,
Room 116
State College, PA 16801-5289
814-231-1063

SERVICE AREA:

Classes located in State College Area School District buildings and local church sites.

SERVICES PROVIDED:

- ADULT BASIC EDUCATION (ABE)
  Review of basic skills in the areas of math, reading, and writing.
- GENERAL EDUCATIONAL DEVELOPMENT (GED)
  Preparation for the General Educational Development (GED) tests to obtain a high school diploma.
- ENGLISH AS A SECOND LANGUAGE (ESL)
  Attendance at English as a Second Language (ESL) classes to improve listening, conversation, and vocabulary.
- SPECIAL SERVICES
  - Use of a computer based career guidance system: DISCOVER FOR ADULTS;
  - Improvement in job search/job retention skills;
  - Study for auto/motorcycle drivers test;
  - Preparation for naturalization tests.

This version of the Project PLUS workplace literacy pamphlet was prepared by the Centre County, Pennsylania, Project PLUS taskforce. The taskforce brings together literacy providers, the editor of the local newspaper, the Private Industry Council, community leaders, and local businesses.

This is the second page of the Project PLUS pamphlet adapted by the Centre County, Pennsylvania Project PLUS taskforce. The pamphlet describes programs of local literacy providers and the Job Service. In a pilot project initiated by the taskforce, applicants for employment with a major manufacturing company who fail a Job Service screening test are referred to local literacy providers. After instruction they are eligible for retesting.

This brochure is underwritten through the generosity of the American Association of University Women and was prepared with the cooperation of WPSX-TV and the Institute for the Study of Adult Literacy of Penn State University, Mid-State Literacy Council, Community Education of the State College Area School District, CIU 10 Development Center for Adults, the Office of Employment Security, and the Centre Daily Times.

PLUS
PROJECT LITERACY U.S.

abc / PBS

PLUS outreach activities in Centre County a being coordinated by the Centre County Local PLUS Task Force.

CIU 10 DEVELOPMENT CENTER FOR ADULTS
Centre County Vo-Tech School
Pleasant Gap, PA 16823
814-359-3069

SERVICE AREA:

Classes located at the Centre County Vo-Tech School, Bellefonte Museum, Philipsburg PICCC Office, and Millheim Community Action Outreach.

SERVICES PROVIDED:

★ GENERAL EDUCATIONAL DEVELOPMENT (GED)
Preparation classes for the GED high school diploma equivalency test.

★ ADULT BASIC EDUCATION (ABE)
Classes in basic skills (reading, math and English) for adults 16 years of age and older who are functioning on a pre-GED or 0-8 grade level of proficiency.

★ ADULT LITERACY
A one-on-one volunteer tutoring program to assist adults functioning on a pre-GED and GED level.

★ PREPARE PROGRAM
A program designed to prepare students to pass entry examinations for business school, licensed practical nursing, veterinarian assistant program, as well as the general learning ability, numerical, and verbal skill segments of the General Aptitude Test Batte y (GATB)

★ LITERACY AUDITS:
DEVELOP JOB SPECIFIC LITERACY PROGRAMS

A program designed to conduct readability analysis of written employer/employee communications; determine basic literacy skill proficiencies needed for particular jobs.

MID-STATE LITERACY COUNCIL
117 East Beaver Avenue
State College, PA 16801
814-238-1809

SERVICE AREA:

Centre and Clearfield Counties

SERVICES PROVIDED

★ ADULT LITERACY
Basic reading, writing and math instruction for adults reading in 0-5th grade range.

★ ENGLISH AS A SECOND LANGUAGE (ESL)
Instruction in basic reading, writing and math for adults whose native language is not English.

★ Instruction is provided by trained volunteer tutors on an individualized basis.

PENNSYLVANIA STATE JOB SERVICE
Office of Employment Security
University Park Plaza Shopping Center
210 West Hamilton Avenue
State College, PA 16801
814-238-4951

TESTS AND ASSESSMENT SERVICES:

Job Service offers the newest application of a general abilities test ever developed. This concept known as Validity Generalization (VG) permits the Job Service's General Aptitude Test Battery (GATB) to be used as a selection technique for over 12,000 occupations. Employer experience and follow-up research have indicated that this new selection procedure significantly increases productivity of selected workers, provides more specific information to employers as part of the hiring decision, an has reduced personnel administration costs This system has also benefited job applicant by providing more opportunity to be considered for a wide variety of jobs, bette job counseling, and increased job satisfactic through proper job choice. Job Service also continues to offer a wide variety of clerical tests and special diagnostic tests for use in such special areas as literacy development.

This is the front cover of a desk guide given to staff at Job Service offices in Tennessee to use in referring clients to literacy providers. The back cover contains the names and addresses of local literacy providers. The inside of the guide is a form to keep a record of referrals.

The desk guide is part of a project to alert Job Service staff to basic skill needs and services and was initiated by The Tennessee Chapter of the International Association of Personnel in Employment (IAPES) in association with the Tennessee Coalition for Adult Literacy.

To contact the IAPES chapter in your area, write:
International Associate of Personnel in Employment Security
Executive Office
1801 Louiseville Rd.
Frankfort, KY 40601

LITERACY DESK GUIDE
Provided by IAPES and TDES

CLUES FOR IDENTIFYING THE CLIENT

Forgot glasses
Headache
Eye problem
Rushed, wants to take paperwork home
Brought someone with him/her
Hesitation in filling out paperwork

LEADING QUESTIONS TO ASK

"Have you ever had difficulty reading an employment application"?
"Have you ever wished you could read better"?
"Have you ever wanted to read a story to your child"?
"Did you know there are people volunteering their time to help people to read better"?

ADULT BASIC EDUCATION IN THE WORKPLACE

A PARTNERSHIP BETWEEN BUSINESS AND INDUSTRY AND THE ADULT BASIC EDUCATION PROGRAMS

1987-88

Sponsored By Ten Local Boards Of Education
And The Alabama State Department Of Education

DR. WAYNE TEAGUE
State Superintendent of Education

Benefits Industry Receives:

- Employees improve their self esteem and develop more pride in themselves, their jobs and their community.
- Employee's safety records improve.
- Communication between employers and employees improves.
- The quantity and quality of the employee's work efforts improve.
- Work habits improve.
- Employees see their employer in a more positive light since the employer seems to be concerned about them as individuals.
- The employer will give them a lasting contribution to their lives.

Benefits ABE Receives:

- Increased enrollment with a small cost to the program.
- Increased contact hours.
- Reach potential learners who would never enroll in a regular GED class.
- Retention as a whole is better:
  - Learners are in class with people whom they already know.
  - The facility is one with which they feel comfortable.
  - Transportation problems are partly eliminated.
  - Employer is encouraging them to attend.
  - Less time is required by learner since he/she is already at the class site.

How To Start A Class:

- Meet with key people in the community to seek out the most progressive industries.
- If you know someone who knows the manager or personnel director of the plant, for example the superintendent of education, get them to make the initial contact with the industry to explain about the class.
- Supervisor meets with the manager or personnel director of the industry.
  - When you meet with them, work out how much it will cost them to provide the class or classes.
  - Set up the time for the class or classes to meet. Usually the class is provided for only one shift of workers; however, the employer may want to set up a class for each shift to make it available for all employees. This is left up to the discretion of the employer.
  - Set the day when the class will officially begin.
  - Select class location.
  - ABE will provide the material, select, and train the teacher.
  - Talk to the employer about possible incentives that they want to provide.
  - Talk to the employer about making posters to put up in the industry and brochures to hand out to all the employees. (ABE and industry will work together with this.)

This pamphlet, prepared by the Alabama State Department of Education and local Boards of Education in northern Alabama, promotes workplace literacy programs.

This is the second page of the workplace literacy pamphlet used to establish new workplace programs in northern Alabama. The pamphlet contains key information, including benefits in establishing workplace programs, procedures and responsibilities, program content, and descriptions of current programs.

— PARTICIPATING — LOCAL EDUCATION AGENCIES

Albertville City Board of Education
Dr. James Pratt, Superintendent

Arab City Board of Education
Dr. T. Larry Davis, Superintendent

DeKalb County Board of Education
Mr. Franklin D. Kellett, Superintendent

Fort Payne City Board of Education
Mr. John D. Holtzclaw, Superintendent

Guntersville City Board of Education
Dr. Brandon B. Sparkman

Jackson County Board of Education
Mr. Willard Townson, Superintendent

Marshall County Board of Education
Dr. Charles H. Edmonds, Superintendent

Northeast Alabama State Junior College
Dr. Charles M. Pendley, President

Scottsboro City Board of Education
Dr. John Balentine, Superintendent

Snead State Junior College
Dr. William H. Osborn, President

What's Being Taught In Class?

- Assist adults who wish to improve skills in reading, writing, spelling, arithmetic, basic science, and social studies
- Preparation to pass the GED test
- High school graduates may attend for brush up
- Keyes Fibre provided an advanced math class in algebra and trigonometry for on the job skills
- Game Time had one class in algebra and trigonometry for on the job skills

Adult Education Programs In The Workplace

DeKALB

INDUSTRIES PRESENTLY OFFERING ADULT EDUCATION CLASSES:

Hon Co., Fort Payne—First Year, this year's enrollment, 11, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

Sola, Inc., Fort Payne—First Year, this year's enrollment, 12, incentives offered by the industry: pay the teacher's salary, made the class available to dependent family members.

Game Time, Inc., Fort Payne—First Year, this year's enrollment, 37, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

Ramograma, Fort Payne—incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary, provide a separate class for reading.

Yuasa-K, Fort Payne—incentives offered by the industry: pay the teacher's salary.

INDUSTRIES WHO PREVIOUSLY OFFERED ADULT EDUCATION CLASSES.

Andover Togs, Collinsville—Enrollment, 40, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

Collinsville Nursing Home, Collinsville—Enrollment, 15, (Employees only) incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

JACKSON

INDUSTRIES PRESENTLY OFFERING ADULT EDUCATION CLASSES:

Lozier, Inc., Scottsboro—Last year's enrollment, 21, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the regular salary for the last hour of first shift employees and first hour of second shift employees.

J. P. Stevens, Scottsboro—Last year's enrollment, 12, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test.

Fieldcrest Cannon, Scottsboro—

INDUSTRIES WHO PREVIOUSLY OFFERED ADULT EDUCATION CLASSES.

Bemis Inc., Scottsboro—Enrollment, 17, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test.

Dover Mdse, Pisgah—Enrollment, 45, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary, providing a dinner for the learners at the close of the class.

Andover Togs, Stevenson—Enrollment, 35, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

Jackson County Hospital, Scottsboro—Enrollment, 40, (Employees only), incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary.

MARSHALL

INDUSTRIES PRESENTLY OFFERING ADULT EDUCATION CLASSES:

Arrow Shirt Factory, Albertville—(2 classes) Last year's enrollment, 62, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test.

Albertville City Employees, Albertville—Last year's enrollment, 8, (non-reported), incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, made the class available to dependent family members, provided snacks at break, gave a $50 bonus if the employee stayed with the program the whole year.

Kendall, Inc., Albertville—Last year's enrollment, 37, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, made the classes available to dependent family members, provided snacks at break.

Keyes Fibre, Albertville—Last year's enrollment, 23, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, made the classes available to dependent family members, provided regular hourly pay while attending class.

Good Knit, Guntersville—(2 classes) First Year, this year's enrollment, 31, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary, pay the employees their regular salary while attending class, provided snacks at break, gave the employees a $50 bonus when they passed the test.

Lee Plant, Guntersville—First Year, this year's enrollment, 26, incentives offered by the industry: pay the teacher's salary, provided snacks at break.

Guntersville City Employees, Guntersville—First Year, this year's enrollment, 14, incentives offered by the industry: pay the $20 testing fee upon successfully passing the test, pay the teacher's salary, pay the employees their regular pay for the first hour of class.

Lee Plant, Boaz—(2 classes) incentives offered by the industry: pay the teacher's salary, provide snacks at break.

Wayne Poultry, Albertville—Pay $20 fee for GED test.

Reeves Rubber, Albertville—Pay $20 fee for GED test, and arrange shifts where employees can attend class.

SCI, Arab—Pay teacher's salary, pay $20 fee for GED test.

Hudson Foods, Albertville—

INDUSTRIES WHO PREVIOUSLY OFFERED ADULT EDUCATION CLASSES:

All of the participating industries in Albertville, Marshall County, provided the funds for a large banquet at the end of the year for all the students to enjoy together.

All the Albertville industry classes were provided by a special grant from the State Department of Education, Albertville City Schools, and the Northeast Alabama Area Adult Basic Education Program.

BEST COPY AVAILABLE

Spartanburg AWARE, Inc. gives this informational material to employers interested in establishing a workplace literacy program. The material provides an overview of the program, presents steps in program development, and describes program management responsibilities. Spartanburg AWARE attempts to match tutors and learners who work for the same company. Spartanburg AWARE is located at P. O. Box 308, Spartanburg, South Carolina, 29304.

Spartanburg AWARE, Inc.
The Industrial Literacy Program

1. AWARE seeks to offer all non-reading and limited reading adult residents of Spartanburg County the opportunity to improve or develop basic skills.

2. Industrial Literacy volunteers take 12 hours of training in the phonetic-based Laubach method of one-on-one instruction.

3. Training is done by volunteers who are also trained and active tutors.

4. Tutors, once trained, are welcome to attend any training session for refresher information.

5. Industrial Literacy tutors meet with one student at a time for at least one session of one and one-half hours per week.

6. Scheduling of sessions is at the convenience of the student and tutor.

7. This is a self-paced program. The student is encouraged to ask questions and to take the time s/he needs to complete a lesson. There are no grades or "pass" and "fail" in this program.

8. The program consists of four skill levels. A student completing the program can expect to take about two years. There are 74 lessons in all.

9. This program is designed for adults reading below the sixth grade level. The average age of our students is 36.

10. One of the most important aspects of this program is the relationship between the student and tutor. It is important to have an open and positive relationship with your student. With a good relationship and a method of teaching which is based upon a series of successes, a student is always reminded that s/he can learn to read and write.

11. The AWARE staff is available to assist you. Please feel free to call with any question/suggestions you may have.

12. We wish you much success in your adventure into literacy!

"The greatest good we can do for others is not just to share our riches with them but to reveal their riches to themselves."
San Fernando Literacy Council

Spartanburg AWARE, Inc.
Developing a Literacy Program

A. DETERMINE THE NEED
1. Supervisors and shift managers are often aware of employees who are non-readers or who are lacking in basic skills.
2. The level of education of the employees in general is a factor to consider.
3. How are reports and office forms being completed?

B. RECRUIT THE STUDENTS
1. Once the need for the program has been established it is time to recruit the students. There are several successful methods of recruitment:
   a. Post bulletins and posters
      - Keep the wording simple and easy to read.
        example:
        "LEARN TO READ AND WRITE" CALL Ext. 2136
        "Want to Brush-Up on Your Skills?"
      - Use color! Keep in mind a non-reader does not read the bulletin board! Draw his/her attention!!!
   b. Inform supervisors and shift managers of the plan.
      - Word of mouth is a marvelous form of communication.
   c. Speak to the employees personally.
      - Offer the program to employees in small groups.
        example:
        "We are offering a new program. The program is for all employees who would like to learn to read and write and those who would like to help someone learn to read and write. Anyone can sign up."
      - Assure all employees that all information will be confidential.
      - Be encouraging and supportive. Expect success and excitement.

C. RECRUIT THE TUTORS
1. One effective method of recruiting both the students and tutors is in group meetings of 20-25 employees. (See above c-1)
2. Tell employees, for example, "We have five employees who would like to learn to read and write. We need four more tutors!"

D. TUTOR TRAINING

1. All training for tutors will be provided by AWARE.
2. The cost is $3.00 per person.
3. This is a 12 hour certification workshop. There are generally four sessions of three hours each.
4. If there is a facility on-site which can be used for training, this is ideal. If not, AWARE will be responsible for the workshop site.

Spartanburg AWARE, Inc.
Operating The Program

A. Recruit someone to keep track of the records and progress. This will initially take a couple of hours. Once the program is in progress the time spent will be minimal. This person will:
   1. Keep files for both the students and tutors.
   2. Be responsible for reporting tutoring hours and preparation time to the AWARE office.
   3. Order books and materials from the AWARE office.
   4. Provide contact between students and tutors and AWARE.

B. Send the AWARE office the information gathered from the students. We must keep records of students and tutors too.

C. Before the third session of the workshop, match the tutor with the student. Shifts, personalities and personal preferences are some things to keep in mind when matching the pairs.

D. The student and tutor should meet as soon as it is convenient for both. We suggest that tutoring take place "on-site" in a private session.

E. We encourage a meeting with all tutors following their first meeting with the student. This is a good time to share experiences and surprises. The enthusiasm will be a boost for all.

F. In several industries tutors meet monthly to discuss their tutoring experiences. This is an opportunity for tutors to share ideas, solve problems and offer support and enthusiasm. Springs Industries tutors, for instance, meet once a month for lunch. As a result, tutors have collaborated to develop materials for their students.

G. The program is now well on the way! We encourage you to call the AWARE office with any questions you may have. We are also open to suggestions and ideas. If you would like to call to share the excitement of the program, please do! We are anxious to hear of your progress and successes!! As we are ready to help when problems arise. We at AWARE wish you a successful and rewarding journey into literacy!

This article promotes the workplace literacy program of East Mississippi Community College, Golden Triangle Campus by describing the program of a specific program. Included is information about the company's needs, doubts, satisfaction, and support.

Starkville Daily News

FlexSteel literacy program opens doors

By NORMA WILLIAMSON
SDN Lifestyles Editor

If Jason Nowell has been walking with his head held a little higher and his shoulders a little straighter recently, there's good reason: he has earned his long-coveted high school equivalency diploma, he's $100 richer and — not least — his future is widening before him.

On May 31, Nowell became the first graduate in a recently inaugurated educational program for employees at FlexSteel Industries. By way of congratulations, last week his boss presented him with a $100 U.S. Savings Bond and full pay for the day's work he missed in order to take the test.

"I hope we can give somebody else a little encouragement," said Pat Salmon, general manager at FlexSteel, as he handed Nowell the bond.

"But," he continued, with his tongue way over in his cheek, "I don't know if I can afford many more graduates."

FlexSteel's on-site literacy program began last November after Linda Maravilla, industrial literacy coordinator for East Mississippi Community College, contacted the company's personnel director, Roy Pollard.

Company officials have not put pressure on employees to participate in the program, nor have inducements such as raises and promotions been offered to increase participation.

"Basically, what we said was, 'Here's an opportunity we have that's free. Let's take advantage of it,' " says Pollard, who admits to having to be "talked into" giving the program a try.

To introduce the opportunity at FlexSteel, Maravilla and Salmon met with employees at break times in all three buildings. The company's 14 supervisors have also encouraged employees to enroll in the program.

"You can't do anything in any organization unless you have your supervisors behind it," Pollard says. "Our supervisors did a good job."

In an on-site literacy program, the company agrees to provide space for classes and study sessions. Funds for materials and the teacher's salary come from federal sources through local literacy agencies.

Annette Nimock, a West Point teacher, comes to FlexSteel three afternoons each week armed with lesson plans for classes and individualized instructions for single students. She stays as long as she is needed, usually two-three hours.

The program is flexible, and new students can start any time.

Of 33 FlexSteel employees who expressed interest initially, 25 have enrolled in the program with attendance varying week to week.

The average age of FlexSteel's 230 full-time employees is 28. Most of them are already high school graduates, Pollard says, adding that "people who have finished high school can still improve their math and reading skills."

"We have had no problems of any kind with the program," he says with some satisfaction — this in spite of initial reservations about the reactions of other employees to the enrollees.

"I was somewhat concerned about the possibility of ridicule," says Pollard. "But most of that (fear) was probably in my mind. It didn't happen."

Although the company expects to reap no immediate benefits from the literacy program, in the long run the better-educated work force will pay off in material terms.

"We have systems in place where employees have to report production levels and read blueprints and specifications," Pollard says. "Obviously the better educated the employee is, the better he can learn the systems.

"The basic information on cost accounting, production codes, etc., comes from the floor," he continues. "What the employees can't do, the supervisors have to do. Improved skills will help the company, but that was not our primary motive.

"It will automatically help us. If the employees feel better about themselves, they will be better satisfied, more productive workers."

Jason Nowell is a case in point. An above-average student, he did not drop out of Sturgis High School by choice and has had his eye on that high school diploma for 10 years.

He had earlier opportunities to further his studies, he says, but the necessity of returning to classes at night after a long day's work discouraged him from doing so. The convenience of on-site classes immediately at the end of the workday is a major drawing card for participating students.

The 27-year-old Nowell, who runs an upright boring machine at FlexSteel, says the brushing up on math has already helped his work performance.

"Reading tapes and measuring holes and figuring out time for production schedules — I can do it my head much quicker already," he says.

Nowell hopes to begin taking college courses in some field of engineering after the fall semester.

"I always wanted to go to college, even when I dropped out of high school," he says. "I didn't want to drop out."

Meanwhile, he can enjoy the well-earned satisfaction of achievement and recoup some of the time he has missed in recent months with his family: his wife, Lou Anna, and their sons, Mitchell, 9, and Michael, whose birth May 28 provided his dad with a second major landmark within a week.

This procedure for conducting a literacy audit is taken from The Bottom Line: Basic Skills in the Workplace (1988), U.S. Department of Labor, U.S. Department of Education. Directed at determining skill requirements and abilities in relation to current jobs, the procedure can be adapted to determine projected training and job requirements.

How to Perform a Literacy Audit

1. Observe employee(s) to determine the basic skills they must use in order to perform their jobs effectively.

- Watch the employee(s) throughout a workday to be sure all tasks are observed. Continue this observation over a period of time if tasks change periodically rather than daily.
- Record each time the worker reads, writes, or does an arithmetic calculation.
- Note the setting in which these basic skills activities take place.
- Note the materials used by the employee to perform the tasks involving basic skills activities.
- Determine the purpose of those tasks.
- Be aware of whether the tasks are performed individually or in groups.

2. Collect all materials that are written and read on the job to determine the degree of skill proficiency an employee must have to do the job well.

- Include memoranda, telephone messages, manuals, bills of sale, and forms such as inventory lists, balance sheets, and requisition slips.
- Examine the materials to determine reading levels, necessary vocabulary, and style.
- Analyze the content of these materials to determine their function.

3. Interview employees and their supervisors to determine their perception of the basic skills needed to do their jobs.

- Note the skills that the top-performing employees say are most important. Then ask them which skills they use most and how they use them.
- Ask the supervisors which skills are needed for job performance, identifying those deemed critical.
- Examine discrepancies, if they exist, between the employees' and the supervisors' perceptions of skills needed. One particularly good technique suggested by Mikulecky (1987) is to ask both supervisors and top-performing employees how they would break in a new employee, step by step. Questions such as "How do you decide what to do first? How do you decide what to do next?" clarify the mental processes underlying good job performance and present a fuller picture than a simple listing of tasks.

4. Determine whether the employees have the basic skills needed to do their jobs well.

- Combine the information gathered from observing the employees, collecting the materials they use, and the interviews. Then, write up a description of each of the audited jobs in terms of the reading, writing, and computation skills needed to perform them well.
- Return to the work setting to observe how or whether the tasks requiring these basic skills are performed.
- Discuss observations informally with employees and supervisors when problems are observed, to pinpoint specific areas of difficulty and concern.

5. Build tests that ask questions relating specifically to the employees' job or job group.

- Use job-related language and style.
- Use situations and formats in which the basic skills being tested will actually occur.
- Ask employees to perform the tasks that simulate what they encounter on the job.

By comparing the results of the test with the writeup of the basic skills tasks embedded in the job(s), the literacy auditor can determine whether there is a basic skills problem in the workplace and what that problem is.

Standardized Labor Department Basic Skills Tests

These tests are available to employers through local Job Service offices or, at the state level, the Department of Labor and Industry, Office of Employment Security.

The General Aptitude Test Battery (The GATB) is a standardized screening measure for job entry and promotion that is growing in popularity. The test has 12 parts and takes about two hours to complete. It is written at a sixth grade reading level. The 12 part test examines manual dexterity, visual matching, and language and math aptitude.

Language and math related sections are: (Part 1) Name Comparisons (recognition of spelling differences in full names, titles, or abbreviations); (Part 2) Computations (addition, subtraction, multiplication, division, fractions, percents); (Part 3) Three Dimensional Space (matching flat dimensions to three-dimensional object); (Part 4) Vocabulary (synonyms and opposites); (Part 5) Arithmetic Reasoning (word problems).

Literacy providers may be certified to administer the test. Literacy providers may also offer instruction to upgrade language and math skills in preparation for GATB testing.

The Basic Occupational Literacy Test (BOLT) is a 45 minute standardized language and math test that provides grade level equivalencies from grades 1-12. There are four sections to the test. Each part can be used separately. The four sections are:

1. Vocabulary (Sentence completion),
2. Paragraph comprehension,
3. Arithmetic computation,
4. Arithmetic reasoning (word problems).

The BOLT was designed as a job counseling tool. It is available to employers as an employment screening or job upgrading assessment tool and may be administered by literacy providers. The Job Corps develops vocational training curricula. Ask the national office for materials pertaining to specific occupations. The following tests are available free of charge from the Job Corps. Contact:

U.S. Department of Labor, ETA-Job Corps,
Office of Program Planning and Development,
200 Constitution Avenue, N.W, Washington, DC 20210.
Phone: 1-202-535-0559.

The Job Corps Reading Test (RJS1) is a 13 minute standardized reading comprehension test that provides grade level equivalencies from grades 1-12. You may also obtain the Job Corps Reading Placement Test (JCRP1) that requires 35 minutes to complete. Both tests employ the CLOZE procedure. Passages with deleted words are presented. For each deletion, the test taker selects a word from a word list.

The Job Corps Mathematics Skills Inventory (MJSI) is a 25 minute standardized test containing 30 problems. Items include addition, subtraction, multiplication, division, mixed numbers, decimals, percents, measurement, geometry, and word problems. Scores translate into five achievement levels, primary I and II, intermediate I and II and advanced.

CLOZE PROCEDURE

The CLOZE procedure is a technique to assess a person's reading comprehension of specific text. When you use a standardized test, you are limited to a given text, but with the CLOZE procedure you can assess reading comprehension of any text you choose. The CLOZE procedure lets you assess a learner's comprehension of work-related material. Material must be text and not work forms or graphics. The CLOZE procedure is a very flexible tool and can be used for instruction and assessment. The term CLOZE is related to closure. When using the CLOZE procedure, you delete words from a passage for the learner to fill in.

The CLOZE scoring technique was developed using a 250-300 word passage in which every fifth word was deleted, yielding 50 CLOZE items. In scoring, only exact words were accepted as correct. Using this procedure, scores indicate that:

- 70% and above: **Independent reader**

The student has no difficulties comprehending the material.

- 40% to 70%: **Instructional level**

The student reads with about 75%comprehension and may need some assistance.

- 40% and below: **Frustration level**

The student comprehends less than half the content and needs much help or different materials. [1]

If you decide to accept synonyms or other words that retain the meaning of the passage, then a minimum of 50% is recommended as the instructional level.[2] You can also use the CLOZE procedure to get a grade level reading score if you know the readability level of the text.

Commonly used CLOZE guidelines:

1. Use an intact passage that is cohesive. Do not use the end of one chapter and the start of another as a single passage.

2. Leave the first sentence intact. Thereafter, delete every fifth word until you have deleted 50 words. Then leave the last sentence intact.

3. Count as a word anything set off with spaces before and after. For hyphenated words, count the parts of the word separately if the parts

can stand alone as words (for example, self-image). Count the parts as one word if one part cannot stand alone(for example co-worker).

4. Count a number as one word (for example, $1,000).

5. Do not delete punctuation surrounding the deleted word. Do not delete hyphens. Do delete apostrophes in deleted words. [3]

Modified CLOZE Procedure

You may use a modified CLOZE procedure in which you:

1. Delete content words only (noun, verbs, adjectives, adverbs). This type of modification has been used successfully with language experience material when students were given a master list from which to choose.[4]

2. Leave more text intact and delete fewer words (for example, 25 items instead of 50).

3. Leave more text between deletions (for example, delete every tenth word rather then every fifth word).

4. Accept other appropriate substitutions, instead of exact words.[5]

5. Provide multiple choices for each blank, rather than expecting the learner to generate the correct word.

6. Provide a master list from which the learner can choose.

7. Provide the first letter for each omitted word.

8. Provide the exact number of spaces for the desired word.

Examples of CLOZE procedure

Here are samples of the CLOZE procedure. The passage is part of a case study taken from a manual used by a manufacturing company to provide problem solving training to hourly employees:

Example A: Excerpt from standard CLOZE procedure:

Your products are manually packaged in very attractive, four color printed cartons, designed to attract the consumer at the point of purchase. The outer package is a corrugated _____ large enough to hold _____ six to twenty-four _____ products, depending on their_____. This outer hamper is _____ to protect the decorative _____ cartons from dirt, weather _____ fading of the color _____ by the sun. The _____ also protect the individual _____ from damage in handling _____ transit.

Example B: Modified CLOZE procedure using a master list

size	individual	cartons	and	individual	
hampers	from	and	printing	intended	size

Your products are manually packaged in very attractive, four color printed cartons, designed to attract the consumer at the point of purchase. The outer package is a corrugated hamper large enough to hold _____ six to twenty-four _____ products, depending on their_____. This outer hamper is _____ to protect the decorative _____ cartons from dirt, weather _____ fading of the color _____ by the sun. The _____ also protect the individual _____ from damage in handling _____ transit.

Example C: Modified CLOZE procedure using the first letter of desired word

Your products are manually packaged in very attractive, four color printed cartons, designed to attract the consumer at the point of purchase. The outer package is a corrugated hamper large enough to hold f_____ six to twenty-four i_____ products, depending on their s_____. This outer hamper is i_____ to protect the decorative i_____ cartons from dirt, weather a_____ fading of the color p_____ by the sun. The h_____ also protect the individual c_____ from damage in handling a_____ transit.

Example D: Modified CLOZE procedure using a master list of deleted nouns

size	cartons	transit	hamper	products
hamper	dirt	damage	package	
weather	hampers	sun	cartons	

Your products are manually packaged in very attractive, four color printed cartons, designed to attract the consumer at the point of purchase. The outer _____ is a corrugated _____ large enough to hold from six to twenty-four individual _____, depending on their_____ This outer _____ is intended to protect the decorative individual _____ from _____, _____ and fading of the color printing by the _____. The _____ also protect the individual _____ from _____ in handling and _____.

1. Module Series: M-1 - Assisting Students in Improving Their Basic Skills, American Association for Vocational Instructional Material, University of Georgia, Athens, 1987.

2. Dupuis M. M., (1980). The CLOZE procedure as a predictor of comprehension in literature, Journal of Educational Research, 74 (1), pp.27-33.

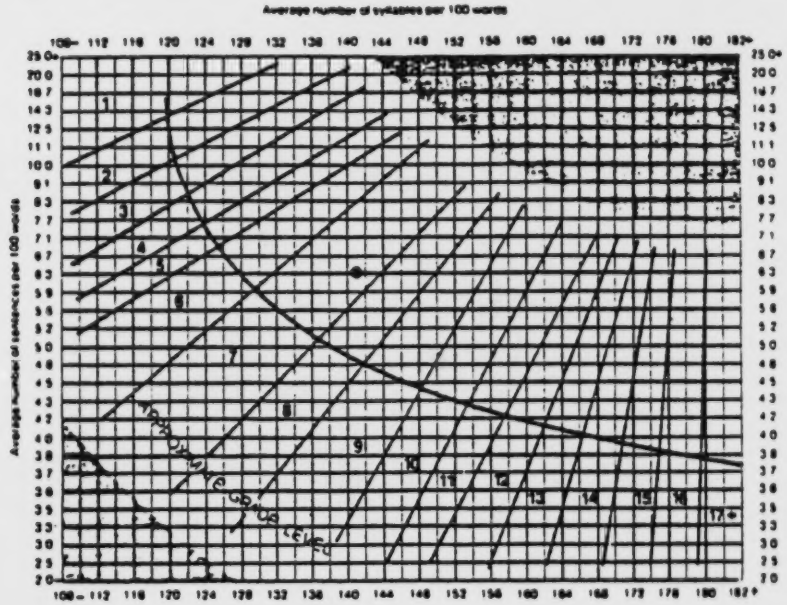
3. Professional Teacher Education Module Series: M-1 - Assisting Students in Improving Their Basic Skills, University of Georgia, Athens, 1987.

4. Effectiveness of the language experience approach and the CLOZE procedure in predicting reading performance among rural Appalachian pupils, Douglas Norman and Ralph Balyear, ERIC document reproduction Service (ED 09435).

5. White, R. and Jordan, W.(1986). Vocational reading in adult education. Adult Literacy & Basic Education 10 (2), pp 90-100.

In the Fry readability formula, difficulty level of text is computed using sentence length and word length. The Fry graph is used to get a readability score for a given text. Use three one hundred word passages. After computing the average number of syllables per 100 words and the average number of sentences per 100 words, place a dot at the intersection of number of sentences (left margin) and number of syllables (top or bottom margin). Then find the readability level by seeing where the dot lies in relation to the column in the right margin.

Fry Graph for Estimating Readability—Extended



DIRECTIONS: Randomly select 3 one hundred word passages from a book or an article. Plot average number of syllables and average number of sentences per 100 words on graph to determine the grade level of the material. Choose more passages per book if great variability is observed and conclude that the book has uneven readability. Few books will fall in gray area but when they do grade level scores are invalid.

Count proper nouns, numerals and initializations as words. Count a syllable for each symbol. For example, "1945" is 1 word and 4 syllables and "IRA" is 1 word and 3 syllables.

EXAMPLE:	SYLLABLES	SENTENCES
1st Hundred Words	124	6.6
2nd Hundred Words	141	5.5
3rd Hundred Words	158	6.8
AVERAGE	141	6.3

READABILITY 7th GRADE (see dot plotted on graph)

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This questionnaire, adapted from the Onan Corporation Employee Survey, is an example of a survey instrument used to determine employees' perceived needs for basic skills training. The questionnaire is taken from Workplace literacy: A Blueprint for Action (1988), Minnesota Adult Literacy Campaign, 475 North Cleveland Avenue, St. Paul, MN 55104.

The plant is undergoing several changes to remain competitive with the highest quality products. These changes include responses to career directions and quality of life for a loyal workforce. This questionnaire is designed to help us plan training courses and programs for the immediate future.

Please respond to each item. Your responses are absolutely confidential. No names are to be placed on these forms. All responses will be tabulated with others in your department.

1. Education level. What is the highest level of schooling that you have completed? Check one.

_____ less than 8th grade
_____ 8th grade
_____ high school diploma
_____ some classes after high school
_____ compete two-year degree or certificate
_____ complete four-year degree
_____ more than four years of college

2. Courses. Including high school and beyond, how many courses have you completed in each of the following areas?

	Courses	
A. Mathematics	None	At Least One
1. General Math	___	_____
2. Algebra	___	_____
3. Geometry	___	_____
4. Trigonometry	___	_____
5. Calculus	___	_____
6. Statistics	___	_____
B. Science		
1. General Science	___	_____
2. Chemistry	___	_____
3. Physics	___	_____
C. Vocational/Industrial		
1. Drafting/Print Reading	___	_____
2. Metalworking	___	_____
3. Electricity	___	_____

	None	At Least One
4. Electronics	____	_____
5. Power (auto/hydraulics/pneumatics)	____	_____
6. Computer Aided Manufacturing (Numerical control mills, lathes...)	____	_____
7. Shop Math	____	_____
8. Technical Writing	____	_____
9. Other _____	____	_____

3. Second Thoughts. Which courses would you like to take or review again if you had the chance?

1. Algebra ____
2. General Math ____
3. Geometry ____
4. Shop Math ____
5. Trigonometry ____
6. Calculus ____
7. Statistics ____
8. General Science ____
9. Chemistry ____
10. Physics ____
11. Drafting/Blueprint Reading ____
12. Technical Writing ____
13. Metalworking ____
14. Electricity ____
15. Electronics ____
16. Power (auto/hydraulics/pneumatics) ____
17. Computer Data Management (inventory, material routing) ____
18. Computer Numerical Control ____
19. Computer Programming ____
20. Study Skills ____
21. Basic Writing, Spelling and Reading ____

Other _____ ____
_____ ____
_____ ____
_____ ____

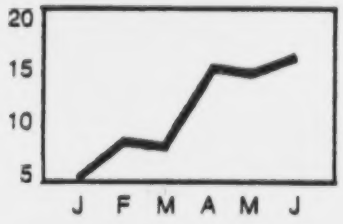
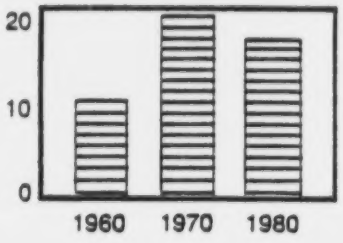
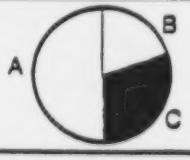
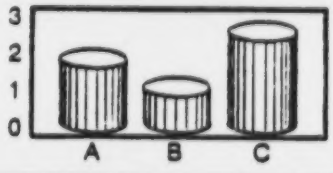
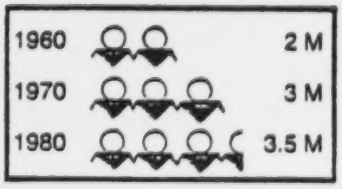
4. Communications.

	Need Help	OK	Very Well
A. Speaking: How well can you:			
1. Ask for assistance	_____	____	_____
2. Help a co-worker	_____	____	_____
3. Instruct a group (3-4)	_____	____	_____

This information describing graphs and how to read them is taken from Module M-2, Assist Students in Developing Technical Reading Skills (1985). American Association for Vocational Instructional Materials, The University of Georgia, 120 Driftmier Engineering Center, Athens, GA 30602.

TYPES OF GRAPHS AND HOW TO READ THEM

Graphs are visual representations of numerical data showing comparisons and relationships.

Types of Graphs	Description and Purpose
Line 	Indicates precise relationship between two sets of data. Each point on the graph represents the two variables in relation to each other. Most accurate type of graph. Shows development taking place, trends.
Bar 	Permits comparison of a small number of values (fewer than ten) taken at different times or representing different age groups, countries, sexes, etc. Presentation may be made vertically or horizontally. Bars may be subdivided into parts of a whole or into percentages.
Circle or Pie 	Shows how various parts relate to a whole; illustrates percentages.
Solid Figure 	Compares two or more totals using geometric figures to represent these quantities. Figures may be cubes, spheres, cylinders, etc.
Picture or Pictograph (Pictogram) 	Illustrates approximate comparisons as bar graphs do, but uses representational figures such as people, buses, cows, or other items being compared.

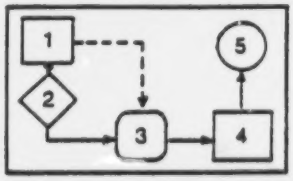
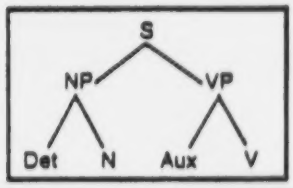
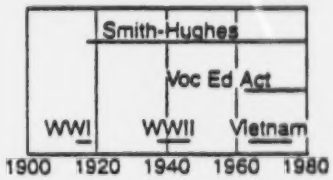
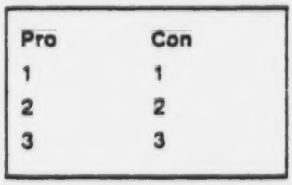
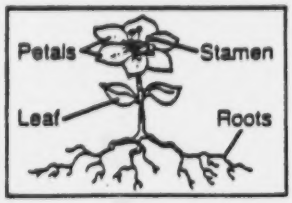
How to Read Graphs

1. Note title and type of graph. These indicate purpose and main idea.
2. Note arrangement of data. Read both vertical and horizontal column headings to see what is being compared (e.g., dollars/year, pounds/acre).
3. Note scale. What are the increments of increase/decrease? Be alert to alterations within the pattern that can change appearance and cause misinterpretations.
4. Read the key. It indicates the meaning of symbols. Color codes and surface patterns (e.g., crosshatching, dots) are often used.
5. Note symbols within the graph. These may be merely decorative or may be meaningful components (consult the key).
6. Read for literal information.
7. Criticize. Make inferences; draw conclusions based on data. What applications are possible?
8. Relate to text material.

This information describing charts and how to read them is taken from Module M-2, Assist Students in Developing Technical Reading Skills (1985). American Association for Vocational Instructional Materials, The University of Georgia, 120 Driftmier Engineering Center, Athens, GA 30602.

TYPES OF CHARTS AND HOW TO READ THEM

Charts are visual summaries of important processes or relationships. They may combine pictorial, symbolic, numeric, and/or verbal elements.

Types of Charts		Description and Purpose	How to Read Charts
Flow		Illustrates a process, functional relationship, organization. Shows simple or complex sequences.	1. Note title and type of chart. These indicate main idea and purpose. 2. Note symbols. These should be easily recognized. Do not attempt to read them literally. Notice details. Observe relationships. 3. Note pattern of organization: • Cause and effect • Comparison/contrast • Chronology • Classification • Step-by-step procedure • System 4. Make inferences and draw conclusions based on data. 5. Relate to text material.
Tree		Shows the way in which many things developed from one source; depicts genealogies. Shows development from root to many branches.	
Time Line		Shows relations among events. Illustrates cause and effect, sequence. Multiple lines may be used to show overlapping events.	
Comparison		Compares and contrasts. Points may be listed side by side as advantages and disadvantages, pros and cons. May be verbal or statistical.	
Diagram		Shows structure of a system (schematic), steps in a process, parts of a structure. Classifies complex procedures. There are many varieties—simple to complex.	

This example of job-related problem solving using math skills is taken from Module M-5, Assist Students in Improving Their Math Skills, (1985) American Association for Vocational Instructional Materials, The University of Georgia, 120 Driftmier Engineering Center, Athens, GA 30602

APPLIED PROBLEM SOLVING

Figuring Drapery Fabric

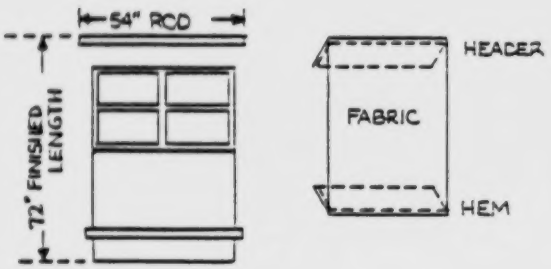
What do I need to find out?

How much fabric should I buy?

What do I already know?

3 identical windows, sizes as shown

Finished length:	72 in.
Header allowance:	3 in. + 3 in. = 6 in.
Hem allowance:	3 in. + 3 in. = 6 in.
Total width:	face of rod + 12 in.
Fabric width:	44 in.



What other information is needed?

Unfinished drapery length per window
Number of panels per window

How can I use available information to learn more?

Unfinished length = finished length + header allowance + hem allowance

72 + 6 + 6 = 84" unfinished length

Panels per window = $\frac{\text{total width} \times 2}{\text{fabric width}}$

54 + 12 = 66" total width

66 × 2 = 132"

44 | 132 → 3 panels per window; -132

What is the solution?

Amount of fabric needed = unfinished length × number of panels per window × number of windows

84 × 3 × 3

84 × 3 = 252; 252 × 3 = 756"

$\frac{756 \text{ inches}}{36 \text{ inches per yard}}$

36 | 756 → 21 yards of fabric needed; -72; 36; -36

This example of an occupation-focused use of the Language Experience Approach appears in *A Curriculum in Employment: Women and the World of Work* (1983), Developed by Azi Ellowitch, Lutheran Settlement House Women's Program, 1340 Frankford Avenue, Philadelphia, PA 19125.

Beginning readers interviewed employed women and photographed them at their job sites. The transcribed interviews were used for reading instruction and discussion of work-related issues.

"PROVING HERSELF"

BY R. JACOBSON

WHEN I STARTED
ON THE JOB,
THEY WERE
RENOVATING
THE Y.W.C.A..
MY FIRST WEEK THERE,
THE FIRST THING
THE FOREMAN
TOLD ME TO DO
WAS TO RUB
THE PAINT
OFF THE CEMENT
FLOORS
WITH A LITTLE
CINDER BLOCK
RUBBING STONE.
NOBODY DOES THAT.

HE GAVE ME THIS
COCK AND BULL
STORY ABOUT HOW
THEY WERE GOING
TO LAY NEW FLOORS
IN THE BATHROOMS,
AND THE BARE FLOORS
WOULD MAKE
A BETTER BOND.

IT WAS BUSY WORK.
THERE I WAS,
IN THE BASEMENT
OF THE Y;
IT WAS HOT;
AND I WAS DOWN THERE
ON MY HANDS AND KNEES,
RUBBING THE PAINT
OFF THE CEMENT FLOOR
WITH A RUBBING STONE.
THERE WERE SEVEN
BATHROOMS.
I DID THAT
FOR TWO WORKING
WEEKS.

MONTHS LATER,
ONE OF THE CARPENTERS
TOLD ME HE NEVER
THOUGHT I WAS GOING
TO MAKE IT.
HE WAS SURE
I WAS GOING
TO REFUSE TO DO
SUCH A BACK-BREAKING,
IDIOTIC JOB.

"PROVING HERSELF"
LANGUAGE ACTIVITIES

NAME: _____
DATE: _____

I. BREAK THE WORDS INTO SYLLABLES:

1. CARPENTER _____
2. FOREMAN _____
3. BASEMENT _____
4. CINDER _____
5. REFUSE _____
6. CEMENT _____
7. BETTER _____
8. LATER _____
9. LITTLE _____
10. SEVEN _____
11. NEVER _____
12. STORY _____
13. IDIOTIC _____

II. FIND THE ROOT WORDS:

1. STARTED _____
2. FLOORS _____
3. KNEES _____
4. RUBBING _____
5. WORKING _____
6. WEEKS _____
7. MONTHS _____
8. GOING _____

III. WRITE THE TWO (2) WORDS YOU SEE IN EACH WORD:

1. NOBODY _____ _____
2. BATHROOM _____ _____

AN INDIVIDUAL ASSISTANCE PROGRAM

In Dunkirk, New York the Dunkirk Public Schools Adult Learning Center conducted a program to teach employees of Dunkirk Radiator Corporation reading, writing, and math computations needed to complete two job testing reports. Approximately 20 employees were enrolled in the three month program. Funding was provided by the Private Industry Council. Here is an overview of the instructional program.

Industry Need Statement: The workers must be able to tally and write numerals. They must also be able to write the numeral when they hear it spoken.
Training Material(s): A worksheet was developed to teach counting.. Boxes were drawn with some numbers filled in. Learners filled in the remaining boxes.
Uses of Material: Pretest, posttest, classwork, homework, language development.

Industry Need Statement: Many of the workers speak English, but the supervisors cannot understand the pronunciations.
Training Material(s): A worksheet was developed showing a clock face and hands in various positions.
Uses of Material: The time-telling sheets built in a key element in the worker's day to set up language interaction settings.

Industry Need Statement: The workers will need to make reports that utilize basic arithmetic computations.
Training Material(s): Arithmetic worksheets were developed to practice addition, subtraction, and multiplication of whole numbers.
Uses of Material: Pretest, posttest, classwork homework, evaluation.

Industry Need Statement: The workers must be able to complete testing reports.
Training Material(s): Radiator testing report forms, photographs of radiator parts, radiator problems, spatial directions, equipment, and repair activities.
Uses of Material: Replicas of work site testing report forms were used for class worksheets, homework and evaluation. Photographs and report forms were used together for reading, vocabulary development, and job site skill development.

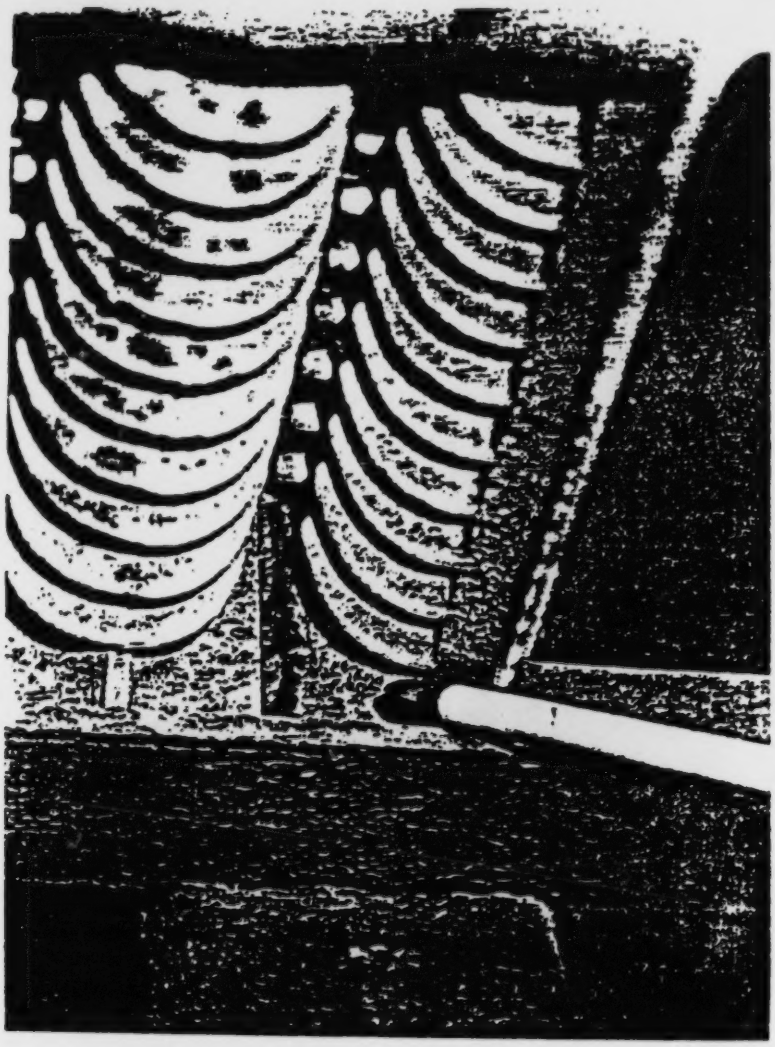
Industry Need Statement: A job-specific vocabulary is needed for the workers to be successful in the testing process.
Training Material(s): Vocabulary lists for radiator parts, defects, abbreviations, and spatial terms.
Uses of Material: All vocabulary needed for the work site was compiled into a basic vocabulary list. Students learned to recognize, read, and write work site vocabulary terms.

Industry Need Statement: Second test boiler reports must have computation results and written comments describing reasons for failure.
Training Material(s): Boiler report forms, math worksheets.
Uses of Material: Pretest, posttest, worksheets, homework, evaluation. Blank forms were used to give students a test with data for the report provided orally.

Industry Need Statement: Workers must identify specific problems in the test situations.
Training Material(s): Photographs, report form worksheets.
Uses of Material: Testing terms were used with work site photographs to test students. Worksheet completion was recorded and dated as the students progressed. Basic and very fundamental concepts were developed from the visual orientation students already had. The worksheet form was repeated as instructional material to extend skills related to previous use of the worksheet.

Industry Need Statement: Students will need to develop skills in reading, writing, and arithmetic in order to remain employable.
Training Material(s): Goal sheets containing spaces for the person to fill in name, date, and main goal.
Uses of Materials: Goal sheets were developed and used primarily to help the student participate in the development of his educational program and to assist in the development of a highly motivational environment. Student need statements and work site need statements provided the framework for curriculum development.

This is a sample of material developed for instruction at Dunkirk Radiator Corporation. Photographs with accompanying descriptions were used to teach terms for radiator parts, radiator problems, spatial directions, equipment, and repair activities.



water leak observed from bottom of core

This is a sample of material developed for instruction at Dunkirk Radiator Corporation. It is a vocabulary list of terms describing radiator problems. Employees needed to read and write these terms on a radiator testing report form.

Reasons for Failure

Right End Cracked SP

Left End Cracked SP

Midd 6 Cracked SP

Back Cracked · SP

Front Cracked SP

Right End SH RT

Left End SH

Midd 6 SH (color)

Midd 6 SH RT

Right End Top hub - cracked inside SP

Right End Bottom hub - cracked inside SP

Left End Top hub cracked SP

Left End Bottom hub cracked - SP

Middle Top hub cracked inside SP

Middle Bottom hub cracked inside SP

Front Top Hub cracked - SP

Front Bottom Hub cracked - SP

Back Top Hub cracked - SP

Back Bottom Hub cracked - SP

Top Nipple Leak

Bottom Nipple Leak

Midd 6 Cracked on Seam SP

End Partial Edge Flue Brackett - Broken

End L.G. - SH under Hub - SP (color)

Front 3/8" - hole bad Tap - SP

SP - Scrap Pile

SH - Sand Hole

RT - Re test

CL - Color

This is a sample of material developed for instruction at Dunkirk Radiator Corporation. Employees practiced completing this radiator test report form using photographs that showed radiator problems.

2nd TEST BOILER REPORT

Good

Boiler Type:

	#Sect.	Reason for Failure
1	4	Back-Cracked-inside (SP)
2	4	Middle-Sec.-Bottom-Hub-Cracked
3	4	Top-Nipple-Leak
4	5	Bottom-Nipple-Leak
5		
6		
7		Tested-(10) ply-Water (10) ok
8		
9		Tested-(15) ply-XE (15) ok
10		
11		Tested-19) ply-XE (8) ok
12	3	Bottom-Nipple-Leak
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		

Total Tested _____ Tester Name

Test O.K. _____ _____

Leakers _____ _____

A Job-related Technical Preparation Program

An integrated basic skills and clerical/computer vocational training curriculum was developed at Northampton Community College (Benner, J., Johnson, B. & Febbo, L. (1988) ABE Pre-vocational skills, Northampton Community College, 3835 Green Pond Road, Bethlehem, PA).

The 200 hour curriculum was designed for unemployed adults who scored between seventh and ninth grade on a standardized reading test. The curriculum was pilot tested in a 10 week program. Most of the program's 15 participants gained employment after completing the course without the need for further training.

Instruction was provided to develop knowledge and skills involving:

- Characteristics of a good secretary.
- The organization of a business.
- Operation of business machines, computer (word processing and spread sheets), telephone system, photocopier, and calculator.
- Telephone etiquette.
- Sorting procedures.
- Preparing an itinerary.
- Prioritizing.
- Listening for important information, asking questions, giving and following directions, delivering a short speech.
- Locating information in the telephone directory, zip code directory, classified ads, airplane and train schedules, following written instructions, reading for main idea and details, skimming (speed reading).
- Grammar and usage (spelling, identifying punctuation and basic parts of speech, errors, homonyms, capitalization).
- Writing, proofreading, and editing(letters, memos, advertisements, news releases).
- Math computation (adding, subtracting , multiplying, and dividing whole numbers, fractions, and decimals, using accurate figures in ordering supplies, extracting information from time cards, computing discounts).

Instructional methods included:

- Hands on experience. (For example, two hours of each class meeting was devoted to computer lab work.)
- Field trips to offices and manufacturing firms.

- Presentations by guest speakers (representatives of the college financial aid office, Private Industry Council (PIC) and a clerical employment agency).
- Films on interviewing techniques and workplace communication.
- Simulation: A company was invented and exercises were designed in relation to the fictional company. Simulation exercises included taking telephone messages, preparing letters from an employer's notes, sorting mail, computing pay from time card information, using the rolodex to obtain and classify information, revising correspondence on the word processor, creating a spreadsheet, writing a memo, filling out forms.
- Role play: created telephone role plays using scripts or character sketches.

Assessment included:

- Screening for admittance into the program using a standardized reading test.
- Class performance demonstrating attainment of specific competencies in office skills, English (listening/speaking, grammar and usage, reading, writing), and math.
- A 50 item pretest and similar posttest reflecting the program's instructional content. Items tested vocabulary, grammar, sorting, spelling, capitalization, and computation.
- Certification in computer use: Level 1, Certificate of Recognition; Level 2, Certificate for Excellence in Computing Skills, Level 3, Certificate in Superiority in Word processing.

This is an example of specific competencies in writing established for instruction in weeks five and six in the Northampton Community College, Pre-vocational Clerical Skills Training Curriculum (1988).

SPECIFIC COMPETENCY - ENGLISH: WRITING
WEEK 5/6

SCORE	INDICATOR	BENCHMARK
	DEMONSTRATE ABILITY TO:	
_____	d. Write a letter	By writing, typing and printing an original letter per "boss's" instructions
_____	e. Edit a paragraph for errors in subject/verb agreement	By editing such a paragraph effectively as determined by instructor
_____	f. Write an advertisement for a newspaper	By writing an ad for a fictitious product for the fictitious company used for class purposes
_____	g. Write a summary of an oral presentation	By summarizing accurately the main idea and subordinate ideas in writing after listening to a tape
_____	h. Edit a paragraph for errors in pronoun agreement	By editing such a paragraph effectively as determined by instructor
_____	i. Edit a paragraph for errors in proper use of personal pronouns	By editing such a paragraph effectively as determined by instructor

Measurement Scale:
- Ø - No evidence of learning
- 1 - Partial learning achieved
- 2 - Fair achievement of competencies
- 3 - Good demonstration of competencies
- 4 - Superior demonstration of achievement of competencies

This simulation exercise was developed to provide instruction and test the student's competency in writing a letter "per boss's instructions."

WRITING SKILLS
CUSTOMER COMPLAINT

Mrs. McConnell from Oklahoma City has written in that she used "Hair Be Shiny" shampoo and it made her hair brittle. She is angry and wants her money back. Your boss, Mr. Mitchell, is too busy preparing his budget and wants you to write her a letter enclosing 3 coupons for free Lustrox products. He wants you to admit no blame, but to tell her how sorry the company is that she's not satisfied and that he hopes she will continue to use Lustrox products. This is to go under his signature. Your letter is to accompany the coupons. He couldn't remember the zip code, but her address is:

Mrs. Wanda McConnell
3637 Wood Hollow Lane
Oklahoma City

*** note: As a good secretary to Mr. Mitchell, you will have to gather whatever information is necessary to make this letter a finished product ready for mailing.

This is an example of specific competencies in office skills established for instruction in weeks nine and ten in the Northampton Community College, Pre-vocational Clerical Skills Training Curriculum (1988).

SPECIFIC COMPETENCY - OFFICE SKILLS
WEEK 9/10

SCORE	INDICATOR	COMPETENCY BENCHMARK
	DEMONSTRATE ABILITY TO:	
_____	u. Type a letter	By typing on the IBM PC a form letter and an original letter
_____	v. Address and stuff an envelope	By demonstrating this skill to their instructor
_____	w. Learn to prioritize	By completing an "In/Out Basket" exercise
_____	x. Fill out a petty cash voucher	By demonstrating this with 4 properly filled out forms for petty cash requests

Measurement Scale:

Ø - No evidence of learning
1 - Partial learning achieved
2 - Fair achievement of competencies
3 - Good demonstration of competencies
4 - Superior demonstration of achievement of competencies

This simulation exercise was developed to provide instruction and test the student's competency in setting priorities.

ESTABLISHING PRIORITIES
IN/OUT BASKET

When you arrived at 9 a.m. for work, in your in-basket were the following. Arrange them in order of priority in terms of how you would handle them at the office. Number them 1 for the first job, 2 for the second, etc. The date is Nov. 6. On the right hand side of the page, note briefly why you would put one ahead of another. [To keep this worksheet neat, you might first work on scrap paper and then transfer your answers.]

_____ a request from your boss to put in an order to maintenance to fix the broken leg of his credenza

_____ a note from your boss asking you to set up airline reservations for his trip Nov. 19/20

_____ an inter-office memo to be typed to the accounting department regarding a recent error in a posting for a bill

_____ an invitation to lunch today from the secretary in Mr. Mitchell's office

_____ a letter to be typed marked "urgent" from your boss to the president of Permaco

_____ filing of copies of letters sent out yesterday

_____ mail to be opened and distributed

_____ 3 requests for check reimbursements for tuition from employees which must be in by Nov. 30

_____ a proposal to be typed due Nov. 10

_____ a note from your boss asking vou to set up a meeting for that afternoon at 2 p.m. with Joel Johnson, Frank Wheeler, and Henry Hornbee

_____ A request for you to send a copy of the Annual Report to a potential stockholder in California

Statistical Process Control

(The following information was adapted from a Statistical Process Control curriculum designed by Charles H. Ware, Science and Technology Center, West Virginia College of Graduate Studies in Charleston. It was designed for use in the Department of Vocational and Community Education of the Kanawha County Schools, West Virginia)

Statistical Process Control (SPC) is the new language of the production line. SPC is the application of statistics during a process rather than waiting for final inspection. It is the use of statistics to measure variation in a process. There are two principles involved:

1. Some variation in production is acceptable.
2. The quality of output should be measured during the production process to permit adjustment.

SPC provides a means of quality control that saves time and material. The key is its ability to allow for corrections and changes by using statistical processes during production to observe whether or not products fall within the limits of acceptable variation, rather than waiting until the process and product are complete.In the past, this determination was made at the end of a production line by inspecting the finished product. If the product did not meet the established standards (limits of acceptable variation), it could not be addressed until the end of production.

Sources of normal variation are:

1. tool alignment.
2. stock variation.
3. tests performed on finished product.
   (Finished products may be identical, but test results may vary because of small differences in the testing process itself. For example, humidity may effect the weight of a particular product, so, the weight may vary depending on when the testing is done.)

Sources of unexpected variations are:

1. power failure.
2. gas supply failure in a welding production.
3. mishandling of a finished product.

"Unknowns" that might occur include:

1. reduction in line voltage.
2. tool wear.
3. differences in judgment among inspectors.

The purpose of SPC is to help identify "unknown" variation in the presence of normal variation. Normal variation is expected and acceptable. Changes do not have to be made for normal variation, but the cause of some unknown variation needs to be found and corrected. Normal variations will

result in products that are slightly different from one another, whereas unknown variations will result in products that are slightly different from what would normally be found.

Variation can be observed when a product is carefully measured and tested, but it is often hard to tell whether it is coming from normal or unknown sources. Identification of unknown sources of variation is important because if unnoticed, the continued production of unsatisfactory products will cost money in material and time.

Statistical Process Control procedures may differ from workplace to workplace. The literacy provider should work with the trainer to coordinate and customize instruction in order to prepare the worker for the particular procedure.

SPC spreads the responsibility of quality control throughout the entire production. To use SPC, effective communication must be maintained among workers. An understanding of SPC will enable workers to perform and communicate effectively.

Basic Skills for SPC:

- basic mathematical operations
- use of the calculator
- computing of averages (mean, central tendency)
- concepts of:
  - spread (range, dispersion)
  - bell-shaped curve(normal curve, normal distribution)
  - standard deviation
  - probability
  - data point
  - normal variation (constant cause system of variation)
  - upper/lower control limit
- use of mathematical formulas (ex: 3N+21= total; when N=6)
- reading of tables, charts, graphs (coordinate systems)
  a. histogram
  b. control chart
  c. tally sheet
  d. bar graph

For more information, contact:

Diana Long Moynahan
Coordinator, Services to Business and Industry
Kanawha County Schools
200 Elizabeth Street
Charleston, WV 25311

This statistical process control chart is used in the manufacturing of automotive carpeting at Masland Industries, Carlisle, Pennsylvania. This chart is used to plot carpet width. The chart shows the upper control limit (UCL) and lower control limit (LCL) of the acceptable range of carpet width.

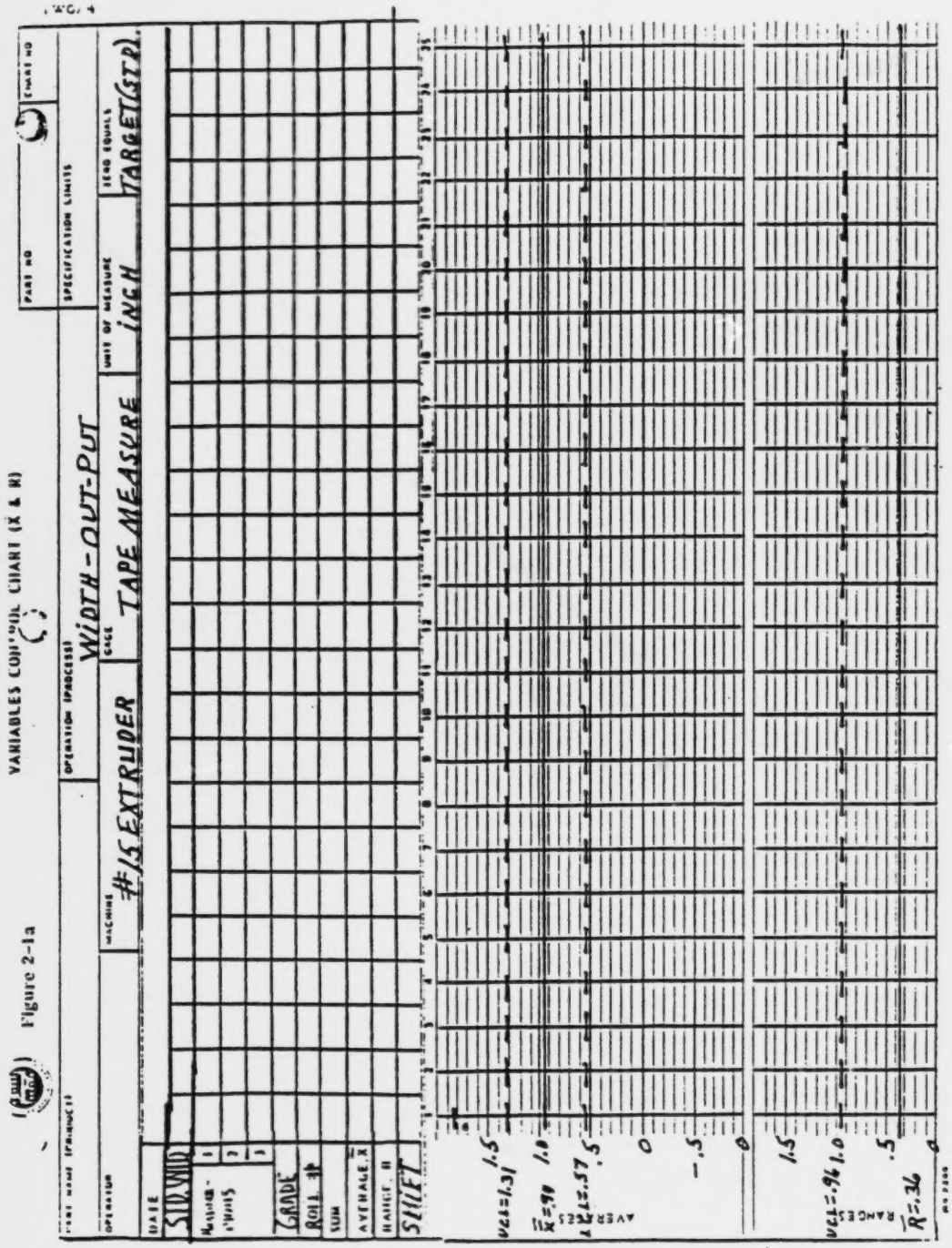


Figure 2-1a

Some literacy providers modify or rewrite printed materials as a service to bring difficulty levels of documents in line with employees' reading levels. The Pittsburgh Literacy Initiative offers a service to determine the readability level of documents submitted by employers and suggest modifications. Here is an example of a document submitted for analysis. The document is a letter describing a company's policy regarding equal employment opportunity. The name of the company has been deleted.

EQUAL EMPLOYMENT OPPORTUNITY

is committed to a continuing effort to provide equal opportunity to all individuals in our work force. It is our policy to comply with both the letter and spirit of all applicable laws and regulations to ensure that personnel practices are free of unlawful discriminatory effect. Management and supervisory personnel at all levels will be held fully accountable for adherence to this policy.

This policy encompasses recruiting, hiring, training, compensation, fringe benefits, promotions, transfers, layoffs, recalls, and on-the-job treatment of employees, and Company-sponsored social and recreational programs. It requires the full and effective utilization of all qualified persons and prohibits discrimination on the basis of race, color, religion, sex, age, national origin, veteran status, or handicaps that do not limit the capacity to perform the job.

In order to ensure implementation of our equal opportunity policies and to comply with our obligations as a federal government contractor, this establishment has developed a program of Affirmative Action. Through this program the Company will continue to provide an atmosphere in which employees of all races and cultural backgrounds can work together in a spirit of congenial cooperation. We will continue to encourage women, minorities, veterans, and handicapped individuals to seek employment and strive for advancement based on individual merit and ability.

Those persons who are identified members of one or more of the aforementioned groups on the basis of employment records of visual identification will be automatically covered under our Affirmative Action Program. If you are a veteran of the Vietnam Era, a disabled veteran, or a handicapped person and wish to be considered under our Affirmative Action Program, please tell us. Submission of this information is voluntary and confidential.

Employees are encouraged to attempt to resolve any problems or discussions with local management. Problems not resolved at the local level may be reviewed or investigated by the Corporate Compliance Office to ensure their objective and impartial resolution within regular procedural and contractual parameters.

Employee Relations Manager is the Facility Equal Opportunity Coordinator. He will report to me quarterly on the progress of the Affirmative Action Program.

Your cooperation and support in Affirmative Action efforts are essential in assuring equal opportunity at this facility.

This is the first page of the report prepared by the Pittsburgh Literacy Initiative in relation to the preceding document. This page contains the readability level of the document and recommendations.

EQUAL EMPLOYMENT OPPORTUNITY

Pittsburgh Literacy Initiative

Readability: 12.0

Observations:

- the format has little white space to break the line by line left to right progression which makes comprehension most difficult
- the level of this letter - this includes comprehension as well as vocabulary and sentence complexity - is far above that of most of your employees

Recommendations:

- vary format by showing lists proceeded by a bullet

  Example - if you are:

  - a veteran of the Vietnam Era
  - a disabled veteran
  - a handicapped person

  Please tell us if you wish to be considered under our Affirmative Action program.

- simplify complicated sentence structure

  Example:

  This sentence -

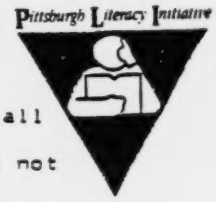
  > In order to ensure implementation of our equal opportunity policies and to comply with our obligations as a federal government contractor, this establishment has developed a program of Affirmative Action.

  Could read -

  > _____ has an Affirmative Action Program to make sure that equal opportunity policies work and to fulfill our obligations as a federal government contractor.

- "Facility" can become plant; "Procedural and contractual parameters" can become limits of the contract and plant procedures.

Here is the rewritten document, "Equal Opportunity," that was submitted by the Pittsburgh Literacy Initiative, 200 Ross Street, Pittsburgh, PA 15219.



We want to be sure that we provide equal opportunity to all in our workforce. Our policy is to obey the letter and the spirit of laws and regulations so that personnel practices do not discriminate.

Who Is Responsible:

Management and Supervisors at all levels will be held responsible.

What Areas Are Involved:

This policy includes areas of:

- recruiting
- training
- fringe benefits
- transfers
- recalls
- on-the-job treatment of clients
- company sponsored social & recreational programs
- hiring
- compensation
- promotions
- layoffs

Affirmative Action:

The Affirmative Action policy requires full use of all qualified persons and prohibits discrimination on the basis of veteran status or handicaps that do not limit job performance.

Our Affirmative Action program helps us to:

- start the equal opportunity program
- make sure we, as a federal government contractor, are following the guidelines.

Through this Affirmative Action program, the company will continue to provide an atmosphere in which employees of all races and cultures can work and cooperate in harmony.

We will continue to encourage women, minorities, veterans and handicapped people to find jobs and seek promotions based on individual merit and ability.

Who Is Eligible For Affirmative Action:

You are automatically covered under the Affirmative Action Program if you are:

- a woman
- a minority person
- a veteran
- handicapped

Your information is voluntary and kept confidential, please tell us if you wish to be included in the Affirmative Action Program.

Problems:

We encourage employees to discuss and try to solve problems with local management. If problems are not solved at the local level, the Corporate Compliance Office can review and investigate problems. This review can help to seek an objective, fair solution that does not violate the contract rules and plant procedures.

_____, the Employee Relations Manager, is the plant Equal Opportunity Coordinator. He will report to me four times a year on the progress of the Affirmative Action program.

Please cooperate and support the Affirmative Action efforts at this plant so that we can assure equal opportunity to all.

This overview of workplace literacy program evaluation is taken from The Bottom Line: Basic Skills in the Workplace (1988), U.S. Department of Labor, U.S. Department of Education.

WORKPLACE LITERACY PROGRAM EVALUATION

Type/Level	Purpose	Strengths	Weaknesses	Examples	Guidelines for Development
Student Reaction	Measure student feelings about a program/course	• Easy to administer • Provides immediate feedback on instructors, facilities, and program design	• Subjective • Provides no measurement of learning, transfer of skills or benefit to the organization	• "Happiness" reports • Informal student/instructor interview • Group discussion	• Design a form which can be easily tabulated • Ask questions which provide information about what you need to know: instructor effectiveness, facility quality, relevance of program content, etc. • Allow for anonymity and opportunity to provide additional comments
Student Learning	Measure the amount of learning that has occurred in a program/course	• Provides objective data on the effectiveness of training • Data can be collected before students leave the training program	• Requires skill in test construction • Provides no measurement of transfer of skills or benefit to the organization	• Written pre/post tests • Skills laboratories • Role plays • Simulations • Projects or presentations • Oral examinations	• Design an instrument which will provide quantitative data • Include pre and post level of skill/knowledge in design • Tie evaluation items directly to program learning objectives
Student Performance	Measure the transfer of training	• Provides objective data on impact to job situation	• Requires task analysis skills to construct and is time consuming to administer • Can be a "politically" sensitive issue	• Performance checklists • Performance appraisals • Critical incident analysis • Self-appraisal • Observation	• Base measurement instrument on systematic task analysis of job • Consider the use of a variety of persons to conduct the evaluation • Inform participants of evaluation process
Organization Results	Measure impact of training on organization	• Provides objective data for cost/benefit analysis and organizational support	• Requires high level of evaluation design skills; requires collection of data over a period of time • Requires knowledge of organization needs and goals	• Employee suggestions • Manufacturing indexes –Cost –Scrap –Schedule compliance –Quality –Equipment donations • QWL surveys • Union grievances • Absenteeism rates • Accident rates • Customer complaints	• Involve all necessary levels of organization • Gain commitment to allow access to organization indexes and records • Use organization business plans and mission statements to identify organizational needs

This questionnaire is used at the UAW-Ford Batavia, Ohio plant to elicit evaluation of the Skills Enhancement Program by participants. The Learning Center program at the Ford Motor Company plant in Batavia is part of the national UAW-Ford Education, Development and Training Program that derives from a collective bargaining agreement between the UAW and Ford.

SEP 301

UAW-FORD SKILLS ENHANCEMENT PROGRAM (SEP)
PARTICIPANT EVALUATION FORM

UAW Local: _____

Plant Location: _____

Education Provider: _____

Project Control#: _____

Course(s) Taken: _____

Please rate questions 1 - 8 on the following scale:

0 = No comment
1 = Poor
2 = Fair
3 = Average
4 = Good
5 = Excellent

If you need any assistance in completing this form, your teacher or instructor will be glad to help you.

1. I think the way workers in the plant hear about the program is:
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

2. The convenience in registering for the course(s) is:
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

3. To what extent are you meeting your goals?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

4. How helpful do you feel the teachers and instructors are?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

This is the second page of the Participant Evaluation Form used in the UAW-Ford Skills Enhancement Program. The program is one of a number of educational opportunities made available to the UAW-represented hourly employees through the UAW-Ford Education, Development and Training Program (EDTP). Education and training programs under the EDTP do not have to be job related, however, many workers seek the assistance which can be helpful in their jobs. The Program reflects the new process of joint union-management efforts in which the UAW and Ford mutually set broad goals and objectives for the program.

SEP 301 (Cont'd)

5. How satisfied are you with the services you have received?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

   _____

6. To what extent has this course(s) increased your confidence?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

   _____

7. To what extent has this course(s) positively contributed to the way you relate to your family and your community?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

   _____

8. To what extent has this course(s) contributed to the way you relate to your job?
   Rating: (circle one)

   0 1 2 3 4 5

   Please explain: _____

   _____

9. How do you feel more workers could learn about these courses and services?

   _____

   _____

10. What suggestions would you give the joint local EDTP Committee about improving or expanding these courses and services?

    _____

    _____

    _____

    _____

NEDTC/BE ELQ H629/pg1-2
eq/opeiu42aflcio

Case Study: Workplace Training Program

The foucs of this case study is a workplace literacy program offered at Planters Peanuts Company. It illustrates how occupation-focused instruction can be tailored for the needs of a specific industry. Between 1977 and 1979, The Virginia Department of Education, Suffolk City Schools, Planter's, and Local 26 of the Distributive Workers of America developed a program to incorporate job-related vocabulary instruction into an adult basic education program. Its purpose was to provide reading instruction in vocabulary common throughout the plant.

Assessment

Management identified departments with the least educated employees. The literacy provider:

1) toured departments;
2) met with supervisors;
3) obtained descriptions of reading and writing tasks and forms;
4) noted written information on forms, container labels, and signs; and
5) listened to worker suggestions.

The literacy provider developed three separate master lists of:

1) job-related words
2) abbreviations and symbols
3) signs.

Items from each list were placed in alphabetical order to make them easy to locate. Approximately 250 words were ranked in order of difficulty and given a ranking number. Ranking was based on number of syllables (one, two, three, and four or more), phonetic regularity ("late" is regular, "chocolate" is irregular), concreteness ("bag" is concrete, "average" is abstract), and frequency of use ("date" is frequent, "carrier" is infrequent).

Abbreviations and symbols were ranked on number of syllables of the represented word, concreteness of the word, and frequency of use of the abbreviation or symbol. Signs were ranked in order of difficulty according to number of words in the sign, number of syllables in the words, frequency with which the sign appears, and the impact of the sign (a sign saying DANGER is higher impact than a sign saying REJECTED).

When assigned a ranking number, some words were selected to teach word attack skills. Word attack skills were: compound words ("instide," "peanuts"); number of syllables (two-syllable words - "after," "almond"); initial consonant sounds (S-"salt," "sample"); short and long vowels (Short o- "of," "lot"); consonant blends (fr- "fragile," "free"); and the sounds er, ir, ur, ar (ur-"burn," "natural').

Instructors developed separate pretest/posttest cards of words, abbreviations and symbols, and signs. Items were placed on the cards in columns in rank order by difficulty. Student record sheets were prepared containing the lists of words, abbreviations/symbols, and signs on pretest/posttest cards. Students were tested for word recognition and understanding of meaning. Students read aloud and explained what the words meant. Each student's performance was recorded on the record sheet. When each participant completed instruction or left the program, the pretest/posttest cards determined how many items had been learned during instruction. If the student was frustrated during testing or had missed 5 to 10 items in a row, the student looked over the list to find any items he or she might know. Then testing stopped.

Instruction

Job-related words: Each word was written on a card. The rank order number of the word (see above) was placed on the card. On one side of the card, the word was printed in all lower case letters. On the other side, the word was printed in all capital letters. Each session 3 to 6 words were selected for instruction using the rank order of difficulty numbers to make the selection. Instructional techniques included:

- Discussion: "Where is the word found in the plant (on forms, on labels)? Can the word be used in everyday situations outside the plant?"
- Auditory: "Listen to the word and repeat the word."
- Visual: "Look at the letters of the word to get a picture, then shut your eyes and see the letters."
- Kinesthetic: "Look at the word, say the word, say the letters, print the letters."
- Spelling: "Print the word six times."
- Writing: "Put the word in a sentence and write the sentence."

Abbreviations and symbols: Each abbreviation or symbol was written on one side of a card and the full word on the other side. Instructional techniques included:

- Explanation and example: "An abbreviation is a short form. It takes little space and is quick to write. Letters in the word are used to make an abbreviation. For example, weight = wt. A symbol stands for a word or idea is also a short form. For example, $ stands for dollars."

- Auditory - visual: "Listen to the word while looking at the abbreviation or symbol."

- Visual - kinesthetic: "Print the word while looking at the symbol or the symbol while looking at the word." Matching drill: Symbols are in one column and meanings in another column.

RESOURCES

STATE ADULT BASIC EDUCATION OFFICES IN APPALACHIAN REGION

Alabama

ABE Director
Dept. of Education
111 Coliseum Blvd.
Montgomery, AL 36195
(205) 261-5729

Georgia

ABE Director
Adult & Community Education
Dept. of Education
1870 Twin Towers East
Atlanta, GA 30334
(404) 656-2634

Kentucky

ABE Director
Div. of Community & Adult Education
Capitol Plaza Tower, 17th Floor
Dept. of Education
Frankfort, KY 40601
(502) 875-7000

Maryland

ABE Director
Department of Education
200 W. Baltimore St.
Baltimore, MD 21201
(301) 333-2361

Mississippi

ABE Director
Department of Education
Box 771
Jackson, MS 39205
(601) 359-3459

New York

ABE Director
Division of Adult and Cont. Education
State Education Department
Albany, NY 12234
(518) 474-5808

North Carolina

ABE Director
Continuing Education Services
Department of Community Colleges
200 W. Jones St.
Raleigh, NC 27611
(919) 733-7051

Ohio

ABE Director
Adult and Community Education
Department of Education
Division of Educational Services
65 S. Front St., Rm 811
Columbus, OH 43266
(614) 466-4962

Pennsylvania

ABE Director
Division of Adult Basic Education
Department of Education
333 Market St.
Harrisburg, PA 17126
(717) 787-5532

South Carolina

ABE Director
Office of Adult Education
Department of Education
Rutledge Bldg., Rm 209A
1429 Senate St.
Columbia, SC 29201
(803) 734-8070

Tennessee

ABE Director
102 Cordell Hull Bldg.
Nashville, TN 37219
(615) 741-2963

Virginia

ABE Director
Adult Education Service
Department of Education
Commonwealth of Virginia
Box 6Q
Richmond, VA 23219
(804) 225-2075

West Virginia

ABE Director
Department of Education
Building 6, Init B-230
State Capitol
Charleston, WV 25305
(304) 348-6318

STATE ECONOMIC DEVELOPMENT OFFICES IN APPALACHIAN REGION

Alabama
Director
Alabama Dept. of Economic
and Community Affiars
P.O. Box 250347
3465 Norman Bridge Rd.
Montgomery, AL 36125-0347
(205) 261-3572

Georgia
Executive Assistant to
the Commissioner
Administration
Community Affairs
1200 Equitable Bldg.
100 Peachtree St.
Atlanta, GA 30303
(404) 656-3836

Kentucky
Commissioner of Local Governments
Capitol Plaza Tower
2nd Floor
Frankfort, KY 40601
(502) 564-2382

Maryland
Chief
Western Maryland Regional
Development Office
Professional Arts Bldg.
Room 406, 5 Public Square
Development
Hagerstown, MD 21740
(301) 791-4770

Mississippi
Executive Director
Governor's Office of
Federal-State Programs
2002 Sillers State Office Bldg.
Jackson, MS 39201
(601) 359-3150

New York
Director
Office of Local Gov't. Services
New York State Dept.
162 Washington Ave.
Albany, NY 12231
(518) 473-3355

North Carolina
Secretary
Dept. of Administration
116 W. Jones St.
Raleigh, NC 27611
(919) 733-0499

Ohio
Director
Governor's Office of Appalachia
77 S. High St.
24th Floor
Columbus, OH 43266-0101
(614) 644-9228

Pennsylvania
Deputy Secretary
Policy, Planning,
and Program Management
Department of Commerce
433 Forum Bldg.
Commonwealth & Walnut Sts.
Harrisburg, PA 17120
(717) 787-3003

South Carolina
Director
Division of Economic Development
Office of the Governor
Edgar A. Brown Bldg.
1205 Pendleton St.
Columbia, SC 29201
(803) 734-0420

Tennessee
Commissioner
Economic & Community
320 Sixth Ave., North
8th Floor
Nashville, TN 37219-5308
(615) 741-1888

Virginia
Director
Dept. of Housing & Com. Deve.
205 N. Fourth St.
Richmond, VA 23219-1747
(804) 786-4474

West Virginia
Director
Community Development Division
Governor's Office of Community and
Industrial Development
Building 6, Room 553
State Capitol Complex
Charleston, WV 25305
(304) 348-4010

STATE LIBRARIES IN APPALACHIAN REGION

Alabama
Alabama Public Library Service
6030 Monticello Dr.
Montgomery, AL 36130
(205) 277-7330

Georgia
Division of Public Library Services
156 Trinity Ave., SW
Atlanta, GA 30303
(404) 656-2461

Kentucky
Kentucky Dept. for Libraries and Archives
P.O. Box 537
Frankfort, KY 40602
(502) 875-7000

Maryland
Division of Library Development and Services
Maryland State Dept. of Education
200 W. Baltimore St.
Baltimore, MD 21201
(301) 333-2000

Mississippi
Mississippi Library Commission
1221 Ellis Ave.
P.O. Box 10700
Jackson, MS 39209-0700
(601) 359-1036

New York
New York State Library
Room 10C34, C.E.C.
Empire State Plaza
Albany, NY 12230
(518) 474-5930

North Carolina
Dept. of Cultural Resources
Division of State Library
109 E. Jones St.
Raleigh, NC 27611
(919) 733-2570

Ohio
State Library of Ohio
65 S. Front St.
Columbus, OH 43266-0334
(614) 462-7061

Pennsylvania
State Library of Pennsylvania
P.O. Box 1601
Harrisburg, PA 17105
(717) 787-2646

South Carolina
South Carolina State Library
1500 Senate St.
P.O. Box 11469
Columbia, SC 29211
(803) 734-8666

Tennessee
Tennessee State Library and Archives
403 Seventh Ave., North
Nashville, TN 37219
(615) 741-2451

Virginia
Virginia State Library
Richmond, VA 23219
(804) 786-2332

West Virginia
W. Virginia Library Commission
Science and Cultural Center
Charleston, WV 24305
(304) 348-2041

STATE VOCATIONAL INFORMATION MATERIALS RESOURCE CENTERS

State	Center	Activities		Vocational Areas	
Alabama	Vocational Curriculum Research, Evaluation Center Director Division of Voc Ed. Services Room 802 State Office Building Montgomery, AL 36130 (205) 261-5225	Development Dissemination Library Loan Computers	Printing Sales Workshops	Agriculture Business Health	Home Ec Industrial Arts Marketing
Georgia	Instructional Materials and Services Center Director State Board of Postsecondary Vocational Education 3417 Oakcliff Rd. Atlanta, GA 30340 (404) 451-1814	Dissemination Library Loan (in state only) Production of industry-specific training programs Production of public relations materials for State Board		Agriculture Business Marketing	Health Home Ec Industrial Arts
Kentucky	Curriculum Development Ctr Director 2024 Capitol Plaza Tower Frankfort, KY 40601 (502) 564-2890	Development Dissemination Computer Services...Sales	Printing Workshops	Agriculture Business Marketing	Health Home Ec Industrial Arts

State	Center	Activities		Vocational Areas	
Maryland	Maryland Vocational Curriculum Research & Development Center Director J.M. Patterson Building University of Maryland College Park, MD 20742 (301) 454-2260	Development Dissemination Library Loan Computer Services	Printing Sales Workshops	Agriculture Business Marketing	Health Home Ec Industrial Arts
Mississippi	Research & Curriculum Unit Director Research & Curriculum Unit P.O. Drawer DX Mississippi State, MS 39762 (601) 325-2510	Development Dissemination Library Loan Computer Services	Printing Sales Workshops	Agriculture Business Marketing	Health Home Ec Industrial Arts
Ohio	Instructional Materials Lab Director 842 West Goodale Blvd. Columbus, OH 43212 (614) 221-4950	Development Dissemination	Sales Inservice	Agriculture Business	Health Home Ec Marketing
South Carolina	Vocational Curriculum Development Section Director Office of Vocational Education 1237 Gadsden St. Columbia, SC 29201 (803) 737-2744	Development Dissemination Library Loan Prep. of Vocational Tests	Printing Workshops	Agriculture Business Marketing Trade & Industrial	Health Home Ec

State	Center	Activities		Vocational Areas	
Tennessee	Division of Vocational Education Curriculum Ctr. Director Tennessee Dept. of Education 200 Cordell Hull Bldg. Nashville, TN 37219-5339 (615) 741-1819	Development Dissemination Library Loans	Printing Sales Workshops	Agriculture Marketing Health Business/Office Ed. Trade & Industrial Education	Industrial Arts Home Ec
Virginia	Virginia Vocational Curriculum and Resource Center Director 2200 Mountain Rd. Glen Allen, VA 23060-2208 (804) 262-7439	Development Dissemination Library Loan Computer Services Assessment Surveys	Printing Sales Workshops	Agriculture Business Marketing	Industrial Arts Health Home Ec
West Virginia	Vocational Curriculum Lab Director Cedar Lakes Conference Ctr. Ripley, WV 25271 (304) 372-7017	Development Dissemination Library Loan Computer Services	Printing Sales Workshops	Agriculture Business Marketing Trades & Industrial	Industrial Arts Health Home Ec

Chapter 7

ANNOTATED BIBLIOGRAPHY

Annotated Bibliography

I. Books & Monographs

Allen, Ken, Keller, Shirley, & Vizza, Cynthia. (1987). Building partnerships with business. Washington, D.C.: VOLUNTEER

Examines the growing trend of voluntary organizations to cultivate corporations as sponsors and resource providers. Analyzes the nature, scope, and structure of existing corporate programs, then provides guidelines for how to form such partnerships with businesses. Provides helpful references.

American Association for Vocational Instructional Materials. (1987). Assisting students in improving their skills--professional teacher education module series. Athens, Ga.: Driftmier Engineering Center.

Provides guidance to instructors of occupation-related basic skills during vocational or technical training. Presents instruction-assessment modules on basic reading skills, technical reading skills, writing skills, oral communication skills, and math skills.

Bixler, B. & Askov, E.N. (1988). Use of computer assisted instruction with displaced workers and volunteer tutors. University Park, PA: The Institutefor the Study of Adult Literacy, Penn State University.

A study of Penn State Adult Literacy Courseware used to teach sight vocabulary in a volunteer tutoring situation with unemployed adults functioning below the sixth grade reading level. Examines methods of adapting the courseware for workforce education. Measures gains in reading level by students and attitude changes towards computers by both students and teachers. Contains detailed recommendations for further applications.
248 Calder Way, Suite 307, University Park, PA 16802.
(814) 863-3777

Carnevale, A.P., Gainer, L.J., & Meltzer, A.S. (1988). Workplace basics: the skills employers want. Alexandria, Va.: American Society for Training and Development; The U.S. Department of Labor, Employment and Training Administration.

Developed for trainers in business and industry to stress the need for basic skills training. Describes the basic skills of leadership, teamwork, self-esteem, creative thinking , communication, reading, writing, computation, and learning to learn that are essential in business. Innovative graphics. Available at 1630 Duke St., Box 1443, Alexandria, Va 22313.
(703) 683-8100

Casner-Lotto, Jill. (Ed.). (1988). Successful training strategies: twenty-six innovative corporate models. San Francisco; New York: Jossey - Bass Publishers.

A companion volume to Training (cited below). Text presents the state of the art in training and on-the-job learning through twenty-six detailed case studies from leading-edge companies who have reshaped their training strategies to respond to worldwide competition and rapidly changing technology. Contains a brief reference list, helpful annotated index.

Collino, G.E., Aderman, E.M. , & Askov, E.N. (1988). Literacy and job performance: a perspective. University Park, PA: The Institute for the Study of Adult Literacy, Penn State University.

Provides an orientation to existing information about literacy and job performance by predicting changes in the labor market, examining how labor and management view basic skills training, current research on the subject, as well as the costs of basic skills deficiencies. Provides annotated notes and a bibliography.
248 Calder Way, Suite 307, University Park, PA 16802.
(814) 863-3777

Drew, R.A., & Mikulecky, L. (1988). How to gather and develop job specific literacy materials for basic skills instruction. Bloomington, IN: The Office of Education and Training Resources, School of Education, Indiana University.

A practitioner's guide for determining job-related basic skills by providing guidelines and questions for gathering information about literary tasks on-the-job. Provides examples of literacy task analysis through discrete action steps (e.g. scan, locate, prioritize) as well as techniques for instruction. Provides practice in Fog and Forecast readability formulas. Available at 840 State Rd., 46 Bypass, Rm. 110, Bloomington, IN 47405.

Gordus, J.P., Gohrband, C., & Meiland, R.R. (1987). Preventing obsolescence through retraining: contexts, policies, and programs. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

Provides data on retraining for those currently employed and those who have lost jobs. Illustrates need for basic skills for retraining and job search skills. Includes recommendations, references and bibliography.

Hull, W.L. & Sechler, J.A. (1987). Adult literacy: skills for the American work force. Columbus, OH: Ohio State University.

Discusses the national need to develop workplace literacy and the usefulness of basic skill lists to both the employer and program planner. Contains five lists of occupational basic skills, including the Basic Skills Survey Lists of the Center for Public Resources and the General Educational Development Levels from the Dictionary of Occupational Titles. Available at 1960 Kenny Rd., Columbus, OH 43210-1090.

Mark, J.L. (Ed.). (1987). Let ABE do it: basic education in the workplace. (1988). Washington, D.C.: American Association of Continuing and Adult Education.

Highlights programs operating at over 200 locations throughout the nation. Available through AAACCE, 1112 16th St., NW, Suite 420; Washington, D.C. 20036. (202) 463-6333.

Mikulecky, Larry; Ehlinger, Jeanne, & Meenan, Avis, L. (1987). Training for job-literacy demands: what research applies to practice. University Park, PA: The Institute for the Study of Adult Literacy. Penn State University.

Examines the current status of literacy in the workplace; presents a series of literacy theories and evaluates their applicability to job literacy; concludes with a job literacy problem-solving model that can be adapted for use within the classroom. (For availability see Drew et al.,) 248 Calder Way, Suite 307, University Park, PA 16802.
(814) 863-3777

National Alliance of Business. (1987). The fourth R: workforce readiness. Washington, D.C.

Argues that business and education must collaborate on programs to improve the quality of education, build civic literacy, and create a workforce that can adapt to workplace changes. 1015 15th Street, NW, Washington, D.C. 20005
(202) 457-0040

Penfield, J. (1984). Integrating ESL and the workplace. Highland Park, New Jersey: Penfield Associates.

A guide for preparing learners for entry-level positions in the community. Recommends teaching the names of action verbs, discourse routines, spatial and procedural directions, job duties, work rules, and job-related reading, writing and math. Encourages using workplace pictures during instruction. Provides abbreviated vocabulary lists for housekeeping, food, and health services. Available at P. O. Box 4493, Highland Park, N. J. 08904.

Pershing, J.A. (Ed.). (1988). Bridging education and employment with basic academic skills. Bloomington, IN: The Office of Education and Training Resources, School of Education, Indiana University.

Supports job-related basic skills instruction in vocational training. Supports an integrated approach to instruction, presenting guidelines for conducting a literary task analysis, descriptions of occupational basic skills, skill demands, and skill deficiencies. Separate chapters on job-related basic mathematics, science, and computer skills. (For availability see Drew et al.,).

Rostow, Jerome M., & Zager, Robert. (1988). Training--the competitive edge: introducing new technology into the workplace. San Francisco; London: Jossey- Bass Publishers.

The results of a three-year Work in America Institute study exploring the most effective, innovative training and development strategies for American businesses. Provides practical advice for organizations of any size or type who wish to reshape their training strategies to improve productivity, quality, and competitiveness. Contains a concise reference list, annotated index.

Rush, R.T., Moe, A.J., & Storlie, R.L. (1986). Occupational literacy education. Newark, Delaware: International Reading Association.

Presents a brief summary of language use in ten occupations, both in training and on-the-job. Illustrates current theories showing that basic skills can be learned best when information is organized for meaning and related to the learner's knowledge and interests. Provides good instructional schemes combining text and graphics, technical vocabulary, and word association tactics. Available through the IRA: 800 Barksdale Rd., P. O. Box 8139, Newark, Delaware, 19814.

The Bottom Line: Basic Skills in the Workplace. (1988). Washington D.C.: U.S. Department of Education and the U.S. Department of Labor

Evaluates current literacy programs, illustrating shortcomings, suggesting ways of creating business partnerships and identifying the crucial workplace literacy problems for the future. Provides clear guidelines for evaluating future workplace literacy programs. Copies for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

II. Publications

Abramson, Elinor. (1987). Workforce 2000 -- work and workers for the 21st century. Occupational Outlook Quarterly, 3 (31), 2-36.

Demographic survey that demonstrates the importance of general literacy instruction to fuel a workforce based upon a service-economy that will require more skills than ever before. Cites fastest growing job categories as professional, technical, and sales areas, all of which will require the highest level of skills. Stresses that "a majority of all new jobs will require postsecondary education. Available as a pamphlet from the U.S. Department of Labor, Bureau of Statistics, Washington, D.C.

Berney, Karen. (1988, October). Can your workers read? Nation's Business, pp. 26-28, 30, 32, 34.

Practical illustrations of how American workers are not keeping pace with the demands of today's jobs. Defines workplace literacy and shows companies developing training programs to meet the needs of American industry for both today and the future. Contains a list of literacy organizations throughout the country. Provides a series of steps through which an employer can identify and rectify shortcomings in workers' basic skills. Available through the U.S. Chamber of Commerce, Washington, D.C.

Business Council for Effective Literacy. (1986, September). BCEL Bulletin No. 1: Developing An Employee Volunteer Literacy Program

A six-step guide for businessmen interested in developing an employee volunteer program. Stresses the values of upgrading employee skills, community good-will, and an improved quality of life for all involved.
1221 Avenue of the Americas, 35th Floor, NY, NY 10020.
(212) 512-2415

Business Council for Effective Literacy. (1987, June). BCEL Bulletin No. 2: Job-Related Basic Skills: A Guide for Planners of Employee Programs

A guide to establishing workplace basic skills programs that is directed at program planners in industry. Contains a brief description of 14 established programs, a bibliography, names and addresses of literacy experts, and an outline of topics and steps in workplace program development. Each topic is briefly examined.

Business Council for Effective Literacy. (1989, January). BCEL Bulletin No. 3 Make It Your Business: A Corporate Fundraising Guide for Literacy Programs.

A guide for local literacy providers who want to develop corporate funding opportunities. Discusses the role of direct corporate giving; guidelines for buidling a good corporate fundraising program; indirect corporate giving. Appendices lists the resources of key national organizations, the regional office of the Foundation Center, and provides sample forms of corporate employee generated grant programs.

Galagan, P.A. (Ed.). (1988). Gaining the competitive edge.
Alexandria, Va: American Society for Training and Development.
Discusses the critical importance of employers' developing human capital as a competitive advantage. Includes case studies of companies with successful strategies and recommendations for research.

National Alliance of Business. (1987). A critical message for every American who plans to work or do business in the 21st century. New York Times, (advertising supplement), pp. 1-11.

Argues for businesses to create, foster, and nuture educational partnerships that can help prepare American workers for the industrial demands of the year 2000. Persuasive narrative interspersed with full-page ads from companies that have made the investment in workforce programs (Dupont, BellSouth, etc.,). Concludes with suggestions about what businessmen can do to begin such partnerships today.

National Alliance of Business. (1988, May). Business and education: the demand for partnership. Business Week, pp. 123-135.

A persuasive call from the National Alliance of Business to its members to take part in upgrading a workforce that will be composed of increasing numbers of women and minorities. Argument stresses the diminishing supply side of the workforce while urging businesses to take a leadership role in partnerships with educators. Valuable demographic data.

III Newsletters

Adult Literacy Initiative; The Division of Adult Education, U.S. Department of Education. The Update. 400 Maryland Ave., SW, Washington, D.C. 20202.
(202) 732-2959.

Business Council for Effective Literacy. (1984-). BCEL

A quarterly newsletter on adult literacy issues and programs, directed to both business people and literacy providers. Contact BCEL for a free subscription, a flyers for distributing to employers, and a list of publications.
1221 Avenue of the Americas, 35th Floor, NY, NY 10020.
(212) 512-2415

IV Videos

Project PLUS (Project Literacy United States). (Producer). (1988). A job to be done [video]. Pittsburgh: American Broadcasting Co.; Public Broadcasting Service.

A workplace literacy video available in both full-length and abbreviated versions. Call (412) 622-1491. In addition, Project PLUS provides literacy providers with material for organizing a local Project PLUS taskforce and conducting a business breakfast. Available at 4802 Fifth Avenue, Pittsburgh, Pa, 15213.

WQEX, Pittsburgh. (1989). (produced under subcontract). A literate workforce: meeting the needs. [video]. Institute for the Study of Adult Literacy, Penn State University. (grant from Pennsylvania Department of Commerce, Appalachian Regional Commission, & Gannett Foundation).

Showcases Appalachian literacy programs in the workplace. Supplements Upgrading Basic Skills for the Workplace. Thirty minute video--thirteen minute version also available. To order contact the Institute for the Study of Adult Literacy, Penn State, 248 Calder Way, Suite 307, University Park, PA. 16802, or call (814) 863-3777.

Chapter 8

EXAMPLES OF DOCUMENTS

from the
Illinois State Board of Education
Springfield, Illinois
1987

"A Compilation of Workplace
Literacy Information"

DETERMINATION SHEET
COST PER CLASS

	WITH AIDE	WITHOUT AIDE
A. Instructional Hours Multiply teacher's hourly salary (Average $12.50 per hour) by 48 (hours per semester).	$ 600.	$ 600.
B. Preparation Time. Multiply teachers hourly salary ($12.50) times 24 (hours to prepare) Note: For every two (2) hours of teaching time, teachers need one (1) hour of preparation time.	300.	300.
C. Curriculum Development. This figure should be small or none.	0.	0.
D. Initial Student Assessment. Multiply teacher's hourly salary ($12.50) by four (4)	50.	50.
E. Fringe Benefits. Determine the actual cost of benefits. (This figure is usually about 8 1/2% of teacher's salary in 60 hours.)	113.73	85.
F. Instructional Materials. Determine the actual cost of materials to be used. (This is usually about $20. per student.) $20 times 10 students.	200.	200.
G. Evaluation and Reporting. Multiply teacher's hourly salary by four (4 x 12.50).	50.	50.
H. Teacher Aides. Multiply hourly salary by number of hours.	338.	0.
I. Administrative Costs. Add lines A, B, D, G, and H. Multiply total by .20 (20%).	267.60	200.
Total	$1,919.33	$1,440.

NOTE: These figures are approximate.

COUNTY PUBLIC SCHOOLS

Superintendent

Maryland - 21204

Are you looking for a way to increase employee productivity at minimal cost to your company? Would your employees benefit from basic skills classes, vocational training, or communications skills development?

The Office of Adult Education of Baltimore County Public Schools offers cost-effective on-site staff development training programs which are designed to meet the specific needs of each company. Our staff of experienced teachers has an outstanding record of success in working with adult students.

Whether your company needs a GED preparatory class for 15 employees, a team building class for 5 managers, or a basic skills tutorial program for one employee who needs to improve his/her reading and writing skills, the Office of Adult Education can help. We feel confident that you will not find a better staff development program in the Baltimore area. And, best of all, because we are a non-profit organization, the cost to you is minimal.

I will be happy to visit you to explain our staff development program in greater detail. To arrange for an appointment, please call the Office of Adult Education.

Sincerely,

Program Assistant
Training and Staff Development
Office of Adult Education

jh

CONTRACTING ISSUES TO ADDRESS

1. Is the organization capable of supporting contractual arrangement?

2. Are the community agencies aware and supportive of your efforts as an adult education unit?

3. Is your product respected by both educators and potential consumers?

4. What is the availability of personnel once the contract is secured?

5. What types of monitoring activities can provide insights without intimidation?

6. What strategies have been sufficiently developed for the presentation phase of contracting?

7. Is the existing staff aware, supportive, and capable of assisting in the marketing phase of contracting?

8. Is funding available to tailor programs to the existing need of an agency?

9. What strategies might be developed to reduce the "perceived risk" phase of contracting.

10. What are some ways which may be explored to encourage credibility?

11. Can "quantitative results" be efficiently and justly demonstrated?

12. Should the evaluation phase include management input?

13. Is the scope of the program wide enough to include existing materials and curricula?

BALTIMORE COUNTY PUBLIC SCHOOLS
6901 Charles Street
Towson, Maryland 21204

AGREEMENT
BETWEEN
BALTIMORE COUNTY PUBLIC SCHOOLS
OFFICE OF ADULT EDUCATION
AND

FOR
BASIC SKILLS INSTRUCTION

THIS AGREEMENT is effective the _____ day of _____between Baltimore County Public Schools Office of Adult Education and _____, Baltimore County Public Schools and _____do mutually agree as follows:

I.

PROGRAM AND SERVICES TO BE PROVIDED

_____ shall purchase services of the Office of Adult Education. The Office of Adult Education shall provide basic skills instruction for _____

II.

TERM OF AGREEMENT

Performance under this Agreement shall commence on _____ and shall continue until _____ or as long as a demonstrated need exists for these services. This contract may be terminated by either party only by written notification but not less than two weeks before projected termination date. At the completion of the services specified in this agreement_____ _____ has the option of renewing this Agreement with the Office of Adult Education for the new fiscal year.

III.

COSTS AND EFFICIENCY

(a) THE COST to _____ for the services to be provided by the Office of Adult Education under the Agreement shall be ($30.00 for each hour of service) based on the following expenditures.

(1) Teacher Salary and Fringe Benefits for ____hours of Student Instruction (____hours per week for ___ weeks)
(2) Student Assessment (initial, ongoing and final progress reports)
(3) Teacher Preparation Time (_____hour per week)
(4) Instructional Materials
(5) Administrative Costs

(b) METHOD OF PAYMENT: The Office of Adult Education shall invoice _____ on _____ Payment by _____ shall be made within 60 days of receipt from the Office of Adult Education.

IN WITNESS WHEREOF, the parties have executed this Agreement and have caused their respective seals to be affixed hereto on or before _____.

Attest: For _____

_____ _____
Signature

_____ _____
Name (typed) Date Signed

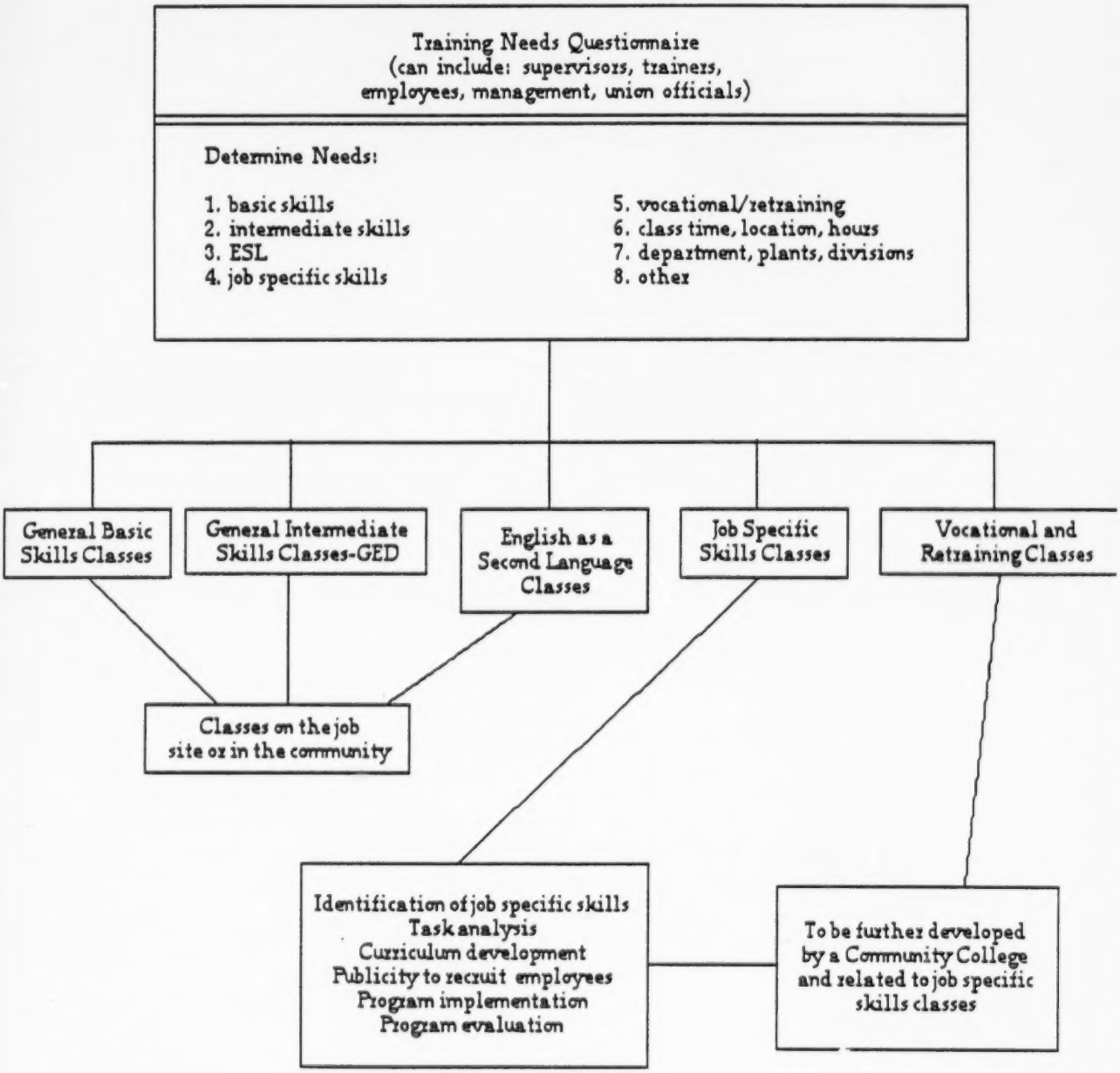
For BALTIMORE COUNTY PUBLIC SCHOOLS

Attest:

_____ _____
Signature

Bert. A. Whitt, Coordinator
Office of Adult Education _____ _____
Date Signed

EDUCATION AND TRAINING PROGRAMS FOR BUSINESS


Training Needs Questionnaire
(can include: supervisors, trainers, employees, management, union officials)
Determine Needs:
1. basic skills
2. intermediate skills
3. ESL
4. job specific skills
5. vocational/retraining
6. class time, location, hours
7. department, plants, divisions
8. other
General Basic Skills Classes
General Intermediate Skills Classes-GED
English as a Second Language Classes
Job Specific Skills Classes
Vocational and Retraining Classes
Classes on the job site or in the community
Identification of job specific skills
Task analysis
Curriculum development
Publicity to recruit employees
Program implementation
Program evaluation
To be further developed by a Community College and related to job specific skills classes

Developed by Suzanne Knell, Illinois Literacy Resource Development Project